JCCC Catalog - Academic Year 2024-2025

Welcome to the Johnson County Community College Catalog of credit-bearing courses and programs for academic year 2024-25.

JCCC offers a wide variety of coursework, certificates, and degrees. Career programs provide students the opportunity to prepare for specific careers and enter the job market directly. Transfer degrees may offer students the opportunity to complete 2-years of a 4-year degree and transfer to another college or university.

The credit catalog covers academic year 2024-25, which includes summer 2024, fall 2024, and spring 2025 semesters. While every effort is made to ensure the accuracy of the information in this catalog, Johnson County Community College has the right to make changes at any time without prior notice. This catalog is not a contract between Johnson County Community College and current or prospective students. Updates and corrections may be made occasionally to the online catalog; in the event of a discrepancy between a printed copy of the catalog and the online catalog, the online catalog will be considered the catalog of record.

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Credit Course Descriptions (A-Z List)

The following course offerings at JCCC are listed alphabetically by subject area. Clicking on the subject in which you are interested will give you a list of all courses that fall under that subject and a course description (including credit hour value) for each of those courses. If you then click on a particular course (ARTH 188 History of Photography, for example), you will be directed to a copy of the course outline, which includes the objectives and competencies covered in the course.

Accounting (ACCT)

Courses

ACCT 111   Small Business Accounting (3 Hours)
This course will introduce the basic accounting procedures needed to maintain daily records for a small business and the use of such records in the decision-making process. Upon successful completion of the course, the student will be able to maintain a set of financial records with the occasional help of an outside accountant. This course does not prepare the student for Accounting II.

ACCT 121   Accounting I (3 Hours)
This course is an introduction to accounting fundamentals. Upon successful completion of this course, a student should be able to analyze transactions, use various journals and ledgers, prepare financial statements, and summarize results at the close of the fiscal period.

ACCT 122   Accounting II* (3 Hours)
Prerequisites : ACCT 121 with a grade of "C" or higher.
This course is a continuation of ACCT 121. Upon successful completion of this course, the student will be able to prepare and use financial statements with an increased emphasis on their interpretation, and be introduced to managerial accounting concepts.

ACCT 131   Federal Income Taxes I (3 Hours)
This course teaches the student federal income tax rules and the procedures for reporting federal income tax. Upon completion of this course, the student should be able to do short- and long-range tax planning and keep records that will provide appropriate information for use in preparing federal income tax. The student should also be able to prepare the standard individual federal income tax return. 3 hrs./wk.

ACCT 132   Federal Income Taxes II* (3 Hours)
Prerequisites : ACCT 131 with a grade of "C" or higher.
This course is an in-depth study of Federal Income Tax; it teaches the student federal income tax rules and the procedures for reporting federal income tax for businesses including corporations, partnerships and trusts. Upon completion of this course the student should be able to analyze basic tax scenarios, conduct tax research and complete federal tax returns for various business entities. In addition, the student should be able to conduct short- and long-term tax planning for a business.

ACCT 137   Accounting Applications - QuickBooks* (3 Hours)
Prerequisites : ACCT 111 or ACCT 121.
Upon successful completion of this course, a student will be able to use accounting software to set-up a new company, record daily transactions, prepare end-of-period processes, generate financial statements and reports, and record payroll transactions.

ACCT 210   Data Analytics for Accounting* (3 Hours)
Prerequisites or corequisites: ACCT 122.
Upon successful completion of this course, students will be able to utilize spreadsheet software to create and solve accounting, finance and business problems. Students will ask the correct questions, perform analytics, and communicate the results of their analysis using spreadsheet software to help make decisions.

ACCT 215   Accounting for Nonprofit Organizations* (3 Hours)
Prerequisites : ACCT 121.
This course will teach students basic information of not-for-profit accounting and its primary users: federal, state and local governments; hospitals; and schools. Upon successful completion of the course, the student should be able to describe the primary funds and accounting groups, assist in the budget process, and practice variances among the major nonprofit organizations according to their authoritative pronouncements.

ACCT 222   Managerial Accounting* (3 Hours)
Prerequisites : ACCT 122 with a grade of "C" or higher.
Upon completion of this course, the student will be able to develop and use accounting information as an instrument of management control. Students will recognize needed information, determine where it can be obtained and decide how this information can be used by managers to plan, control and make decisions. Material covered includes cost analysis, cost allocation and budgeting reports to management.

ACCT 231   Intermediate Accounting I* (3 Hours)
Prerequisites : ACCT 122.
The course will present the use of accounting theory in the preparation of financial reports. Upon successful completion of this course, the student should be able to solve problems that arise in the presentation of cash, receivables, inventories, tangible and intangible assets on the statement of financial position, and their related effect on the statement of income.

ACCT 232   Intermediate Accounting II* (3 Hours)
Prerequisites : ACCT 122.
Accounting theory learned through the study of accounting concepts and technical procedures will be presented in this course. Upon completion, the student should be able to solve problems in the presentation of capital structures, long-term investments, debts, leases, pensions, the analysis of financial statements, and price-level, and fair value accounting and reporting.

ACCT 240   Fraud Examination* (3 Hours)
Prerequisites : ACCT 122.
This course analyzes the principles involved in the detection and prevention of fraud as it pertains to financial matters. The course will explore the vast body of knowledge gained by accounting practitioners and will utilize critical thinking to apply these factors to the prevention of financial-statement and employee fraud. Upon completion of this course, the student should be able to describe how and why fraud is committed, use creative ways to detect and prevent fraudulent conduct, and understand how allegations of fraud should be investigated and resolved.

ACCT 278   Accounting Internship* (1 Hour)
Prerequisites : ACCT 136 and ACCT 141 and ACCT 222.
The student will be able to gain work experience in an approved training station under instructional supervision in an accounting or an accounting-related occupation. This internship is designed to give students the opportunity to apply the skills they have acquired in accounting specialty courses. The internship will require an average of 12 hours of job training per week by arrangement. It is strongly advised that the student secure the internship position before enrolling in this course. Searching for the position, applying for it, and being accepted to work are three important aspects of the coursework that must be completed during the first few weeks of the course, if not completed before the course begins.

ACCT 285   Accounting Capstone* (3 Hours)
Prerequisites : ACCT 136 and ACCT 141 and ACCT 222.
This course is designed as a capstone experience before entering the workplace. Topics will include managerial use of financial data, analysis of financial statements, and ethics in accounting. Students will be required to execute accounting procedures both manually and electronically through an accounting cycle. Students will use financial statements to make informed judgments and solve problems. Students will identify and apply ethical positions and effectively communicate this information to others.

ACCT 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of accounting, not usually taught in the curriculum. This is a repeatable course and may be taken more than once for credit.

American Sign Language (ASL)

Courses

ASL 120   Elementary American Sign Language I (3 Hours)
This class will focus on the development of beginning American Sign Language communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. A minimum grade of "C" is required to continue in the ASL program. 6 hrs. integrated lecture/lab/wk.

ASL 121   Elementary American Sign Language II* (3 Hours)
Prerequisites : ASL 120 with a grade of "C" or higher.
This course will focus on continued development of elementary American Sign Language skills beyond those taught in Elementary ASL I. Students will work on developing communication competencies, concentrating on comprehension and production skills. Information about the linguistic and cultural features will be included in the context of language learning experiences. 6 hrs. integrated lecture/lab/wk.

ASL 122   Intermediate American Sign Language I* (3 Hours)
Prerequisites : ASL 121 with a grade of "C" or higher.
This course will focus on the development of intermediate American Sign Language communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. ASL 122 and FL 270 are the same course; only enroll in one. 6 hrs. integrated lecture/lab/wk.

ASL 123   Intermediate American Sign Language II* (3 Hours)
Prerequisites : ASL 122 with a grade of "C" or higher or FL 270 with a grade of "C" or higher.
The course will continue study of intermediate American Sign Language. It is designed to develop further intermediate communication skills in American Sign Language. Information about the linguistic and cultural features will be included in the context of language learning experiences. 6 hrs. integrated lecture/lab/wk.

ASL 135   Intro to American Sign Language Linguistics* (3 Hours)
Prerequisites : ASL 122 with a grade of "C" or higher or FL 270 with a grade of "C" or higher.
This course introduces students to the structural and grammatical principles of ASL. Students will explore concepts of equivalency between English and ASL.

ASL 145   Introduction to the Deaf Community* (3 Hours)
Prerequisites or corequisites: ASL 120 with a grade of "C" or higher.
This course will prepare students to develop and recognize the diversity within the Deaf Community, significant events and figures in Deaf History, and basic norms and values of Deaf Culture. Students will examine and compare Deaf Culture and hearing culture in America.

ASL 147   Fingerspelling I* (2 Hours)
Prerequisites : ASL 121 with a grade of "C" or higher.
Students will work on developing beginning expressive and receptive fingerspelling skills based on word recognition principles. 3 hrs. integrated lecture/lab/wk.

ASL 150   American Sign Language Literature* (3 Hours)
Prerequisites : ASL 122 with a grade of "C" or higher.
This course will provide introduction, discussion, and demonstration of literature in American Sign Language (ASL). The literature involves ASL Poetry, ASL Storytelling/Narratives, Deaf Humor, Deaf Folklore and other genres that have been passed on from one generation to another by culturally deaf people. Students will receive, analyze and retell a variety of ASL literature.

Animation (ANI)

Courses

ANI 122   Digital Rendering for Animation (3 Hours)
This basic digital rendering course is designed for animators and game artists. Students will study basic and advanced digital rendering elements and principles. Students will produce digitally rendered elements used in animation and gaming, including realistic and stylistic character designs, vehicles, architecture, and environments.

ANI 125   Introduction to 2D Animation (3 Hours)
In this course, students will study the fundamental principles of 2D animation; key principles in which all expressions of animation (traditional, digital, claymation, 3D, etc.) are built upon. These concepts include persistence of vision, timing, spacing, arcs, basic body mechanics, character performance, lip syncing, and other essential skills that form the bedrock for professional, industry-standard productions. By the end of the course, students will be able to understand and utilize their newly developed skill sets to craft their own fully animated scenes.

ANI 130   Motion Graphics and Effects* (3 Hours)
Prerequisites or corequisites: CDTP 135 or CDTP 190.
In this course the student will create motion graphics and effects using 2D and 3D elements. Students will create render passes, create 3D elements and effects, and then composite the layers back into After Effects for further manipulation and polish. Students will also explore rotoscoping, motion tracking, motion stabilization, animating effects, text and shape animation, create and set up 2D and 3D text, lighting, materials and basic compositing.

ANI 150   Introduction to 3D Modeling, Texturing and Materials (3 Hours)
This course introduces 3D modeling, texturing, materials, lighting and rendering processes. Students will learn industry production pipelines and create high polygon and low polygon models. Students will also learn how to UV map, create photorealistic textures, add materials, light and render their scenes. Using industry standard software, students will create construction and texture worksheets for portfolio/showreel.

ANI 200   Advanced 2D Animation* (3 Hours)
Prerequisites : ANI 125.
Students who have successfully completed the Introduction to 2D Animation course will be tasked with advanced exercises and projects designed to expand their knowledge of both traditional hand-drawn animation and 2D animated rigs. These advanced topics include 2D effects animation, human body mechanics, advanced acting principles, intro to quadruped mechanics, and constructing/animating 2D character rigs with animation curves.

ANI 210   Digital Sculpting (3 Hours)
In this course students will create basic organic and hard-surface sculptures using a digital 3D software medium. Students will explore production pipelines, basic and advanced digital sculpting techniques, and detailing. Students will also demonstrate the application of materials, color, lighting, and rendering.

ANI 220   Computer Graphics Environments and Animation* (3 Hours)
Prerequisites : ANI 150 or Department approval.
In this course, students will learn how to develop and produce 3D models and renders of studio, interior, and exterior lighting 3D environments. The process of modeling for film and commercial environments and a range of simple to complex lighting and rendering techniques will be covered. 3D camera control tools, basic to advanced animation techniques, and advanced materials and shaders will be explored. Students will also be introduced to render passes and render layers, and composite the rendered images into a polished animation product.

ANI 235   Character Modeling and Rigging* (3 Hours)
Prerequisites : ANI 150.
In this course, the student will create a character using high-end 3D software. Students will explore character design, organic modeling, photorealistic texturing, character rigging, create facial expression shapes, character posing, and creating a diorama for portfolio presentation. Students will also explore advanced modeling techniques; clothing, hair, and advanced texture materials will be covered.

ANI 245   Introduction to Character Animation* (3 Hours)
Prerequisites or corequisites: ANI 150.
Students will develop and refine foundational skills in 3-dimensional (3D) character animation. Students will demonstrate the fundamental principles of animation and apply them using industry-standard 3D animation software. Students will learn how to navigate a 3D interface, create, and edit animation curves and layers, explore bi-pedal body mechanics, and craft believable and engaging character performances. The class will equip students with the essential skills to express their creativity and imagination compellingly.

ANI 252   Advanced 3D Modeling* (3 Hours)
Prerequisites : ANI 150.
In this course students will learn advanced modeling methods and build a deeper understanding of industry production pipelines to create highly detailed polygon meshes. Students will produce portfolio work using industry standard software using advanced modeling, texturing, and rendering techniques. Students will also learn how to create advanced shaders, topology techniques, and layered textures as well as basic lighting, and portfolio organization will be covered.

ANI 255   Advanced Animation and Effects* (3 Hours)
Prerequisites : ANI 150.
The Advanced Animation and Effects course introduces students to various particle effects including rigid and soft body dynamics. Students will create effects like rain, snow, lightning, fire, and different types of shatter. The students will also simulate and render various visual effects, including liquid, cloth, and hair.

ANI 258   Game Level Design* (3 Hours)
Prerequisites or corequisites: ANI 150.
This course provides an introduction to game level design and how to create interior and exterior levels using the same state of the art editing tools that are used in high-end video games. Students learn to build white box levels first and then populate the level with detailed original game artwork. Students will create terrain maps and textures, and interactively place static meshes into the game editor to enhance the visual aspects of the level. Students explore how to build a map that is purposeful and exciting to play.

ANI 260   Animation Capstone* (3 Hours)
Prerequisites : ANI 125.
Prerequisites or corequisites: ANI 252 and ANI 255.
Animation Capstone is the culmination of the skills and tools learned throughout the animation program. In this course, a student will select an instructor-approved project (or projects) focused on the facet of the industry they are most interested in pursuing professionally. The project(s) parameters will vary according to the focus of the student, but can include an animated short, character modeling portfolio, visual development showcase, 3-D architecture and environment creation, and more. Once a project (or projects) has been selected, the student will be tasked to complete specific milestones concluding in a final presentation of their work.

ANI 265   Advanced Character Animation* (3 Hours)
Prerequisites : ANI 245.
Students will continue building on the principles introduced in Character Animation by exploring advanced character animation concepts such as performance driven acting, facial animation, lip syncing, multi-character situations, and an introduction to quadruped/animal body mechanics. By the end of class, students will understand how to craft a compelling animated scene from reference to polish.

ANI 270   Visual Effects and Compositing* (3 Hours)
Prerequisites or corequisites: ANI 220
This course emphasizes the importance of breaking down visual effects shots for effective compositing. Advanced topics will include 2 dimensional/3 dimensional motion tracking, rotoscoping, garbage mattes, 2D/3D visual effects, blue screen or green screen removal, traveling mattes, image correction, lighting and shading. An introduction to the production pipeline used in professional film and TV work will also be covered.

ANI 275   Animation Career Preparation* (3 Hours)
Prerequisites : ANI 125.
Prerequisites or corequisites: ANI 255.
This course will provide animation majors instruction in the presentation of his or her work in a digital portfolio format of professional quality. A website, resume and cover letter will be produced. Self-promotion, networking, job searches and interview skills will also be covered.

Anthropology (ANTH)

Courses

ANTH 125   Cultural Anthropology (3 Hours)
This introductory course will employ various anthropological theories, perspectives and methodologies to critically and comparatively examine an array of cultural and social topics as they relate to selected Western and non-Western cultures and societies. 3 hrs./wk.

ANTH 126   Physical Anthropology (3 Hours)
This course is an introduction to selected concepts and principles important to an understanding of evolutionary forces and their influence on the physiology and behavior of humans. The importance of the scientific method will be explored. Awareness of humans and their place in nature will be achieved by examining basic genetics, micro- and macroevolution, primate ecology and behavior, the paleoanthropological evidence for human evolution, and modern human adaptation and variation. 3 hrs./wk.

ANTH 130   World Cultures (3 Hours)
This introductory course will utilize an ethnographic approach to introduce students to various cultural and social practices of Westernized and non-Westernized cultures and societies from around the world. This course will examine a wide range of topics including economic production, religion, world view, kinship patterns and political and economic institutions. 3 hrs./wk.

ANTH 134   Native Americans (3 Hours)
This ethnographic course will introduce students to the indigenous peoples and First Nations of North, Central and South America, with particular attention being paid to North America. This course will focus on selected First Nations cultures and societies to examine a wide range of topics including arts, oral traditions, religions, and Indian-White relations. 3 hrs. lecture/wk.

ANTH 135   American Indian Art (3 Hours)
This course will introduce students to some of the many art forms of the various American Indian nations of the United States. Media to be explored include textiles, beadwork, quillwork, basketry, pottery, painting, sculpture, and jewelry making. In addition, larger socio-economic issues that address American Indian art in relation to trade, art markets, and legal influences on American Indian art making will be discussed. Lectures, discussions, readings, films, and gallery visits will be used to accomplish this. Special emphasis will be paid to the collection of contemporary American Indian art housed in the Nerman Museum's Indian Art Focus Areas. ANTH 135 is the same course as ARTH 135; enroll in only one.

ANTH 136   Contemporary American Indian Cultures & Societies (3 Hours)
This course will introduce students to the contemporary lifeways and cultural and social practices of the Native peoples of the United States. The primary focus of this course will be the second half of the 20th century through the present. A wide range of topics and issues will be covered, including, but not limited to, current Indian-White relations, federal and international laws and policies, economic development, gender issues, health disparities, contemporary arts, and religious practices. Course objectives will be accomplished through lectures, discussions, readings, and video presentations. 3 hrs. lecture/wk.

ANTH 142   World Prehistory (3 Hours)
This course is an introduction to the variety and continuity of the prehistoric human past. Through the archaeological record we will consider the evolution of humans, the transition of foraging to farming economies, the rise of complex societies, secondary state formation, and the collapse of complex societies.

ANTH 144   Archaeology (3 Hours)
This course is an introduction to the basic concepts, methods, and findings in archaeology. The historical origins of the discipline and modern approaches to understanding the past will be presented. The course will describe the range of archaeological evidence and techniques for locating, analyzing, and interpreting these remains. 3 hrs. lecture/wk.

ANTH 146   Archaeology of Ancient North America (3 Hours)
This course is an introduction to the indigenous peoples and cultures of ancient North America. Drawing upon archaeological and anthropological perspectives, we will survey the culturally diverse and environmentally complex continent from the first Ice Age peoples through the earliest interactions with Europeans. Key theoretical issues considered in this course include human-environmental interaction, the emergence of complexity, warfare, ritual and religion, trade, and identity. Finally, we will explore how new archaeological evidence and contemporary approaches have changed our perspectives on the peoples and lifeways of ancient North America and impacted our ethical responsibilities to their descendants. 3hrs. lecture/wk.

ANTH 150   People and Cultures of Mesoamerica (3 Hours)
This course is a survey of Mesoamerican cultural beliefs, traditions, and practices from the prehistoric era to the present day. Through the archaeological, historical, and ethnographic record we will adopt an anthropological perspective on the global, national, regional, and local forces on everyday life in Mesoamerica. 3 hrs.lecture/wk.

ANTH 153   The Anthropology of the Paranormal & Supernatural (3 Hours)
This introductory course will employ various Western and non-Western perspectives, including scientific and popular culture theories, to critically and comparatively examine a wide array of phenomena classified as paranormal or supernatural. Topics to be covered include extrasensory perception, witchcraft and magic, ghosts, extraterrestrial beings and cryptozoological organisms. Lectures, discussions, readings and films will be used to accomplish the aforementioned, as well as optional trips to local locations associated with the paranormal and supernatural. 3 hrs. lecture/wk.

ANTH 160   Medical Anthropology (3 Hours)
This course will introduce students to an understanding of human health and disease that includes both culture and biology. Western and non-Western cultures will be considered. This course will consider topics such as medical beliefs and curing practices, disease and nutrition, the connection between inequality and health disparities, and how to apply medical anthropological concepts to real-world problems. 3 hrs. lecture/wk.

ANTH 165   Linguistic Anthropology (3 Hours) ⏵
This course is an introduction to the interaction between language and culture. We will explore the various ways humans communicate and analyze how these modes of communication reflect social and cultural identities. Students will also look at how linguistic anthropologists use methods in the field to analyze language use. At the conclusion of this course, students will see how race, ethnicity, gender and other cultural identities are expressed through language. 3 hrs. lecture/wk.

ANTH 205   Archaeological Field Methods (5 Hours)
This course is a practicum of archaeological field methods and techniques. The fundamental principles of archaeological research will be considered. Students will create and implement their own research design in the context of on-going investigations. Emphasis will be placed on practicing the essential skills needed to conduct archaeological research. 160 integrated lecture lab hrs./semester

ANTH 220   Food and Society (3 Hours)
Through this exploration of food in society, students will discover the fundamental significance of the relationships between people and food. In studying the ways food is produced and consumed, we will also discover the ways food shapes and expresses relationships among people. This most basic of human needs is easily taken for granted by those who have plenty, while the causes of hunger are easily dismissed or misunderstood. This course will address such misunderstandings, as well as issues of culture, meaning, identity, power, and ecology, all through a focus on food. ANTH 220 and SOC 220 are the same course; enroll in only one.

ANTH 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

ANTH 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the study of Anthropology, not usually taught in the curriculum. Due to the breadth and depth of the discipline, this course may expand upon a topic introduced in a current course, synthesize topics that cross-cut existing courses or explore a topic not addressed currently in the Department of Anthropology curriculum. Students may repeat Special Topics in Anthropology for credit but only on different topics. This is a repeatable course and may be taken more than once for credit.

Architecture (ARCH)

Courses

ARCH 120   Introduction to Architecture (3 Hours)
This course is an introduction to the profession of architecture through a study of its history, vocabulary, theories and practices. The facets that make up the total architectural curriculum as well as the various professional roles that architects can be expected to perform will be covered. Architectural study is seen as both an art and a science. The interdisciplinary character of architectural practice is emphasized. 3 hrs. lecture/wk.

ARCH 123   Architectural Principles* (3 Hours)
Prerequisites : ARCH 120.
This course will elaborate on the concepts first presented in introduction to architecture. General focus will be on the modern profession and architects dealing with past, present and emerging ideas as they relate to physical and social context including landscaping, buildings and cities. Unifying themes will be presented of formal architectural principles in relation to modernism and the impact on design, the site, landscaping, and site planning issues.

ARCH 127   Introduction to Architectural Graphics (4 Hours)
This course is designed to build a conceptual and manual foundation for professional architectural education. Students will learn to apply a variety of media and drawing systems such as freehand drawing, architectural lettering and equipment usage. Students will also learn applied geometry including line, tone, texture and utilizing sun, shade and shadows. Multi-view, paraline, axonometric and oblique drawings will be taught and students will build models related to architectural forms. Emphasis will be on learning to think in spatial terms while introducing professional, conceptual and visual vocabulary. Graphic presentation skills will be developed using standard graphic conventions, basic computer skills, and basic material investigations. This course is only offered in the fall semester. 8 hrs. integrated lecture, studio/wk.

ARCH 131   Architectural Graphics* (3 Hours)
Prerequisites : ARCH 127.
This course builds upon the conceptual and manual skills acquired in Introduction to Architectural Graphics. Students will expand their ability by learning to apply a variety of media and advanced drawing systems, such as design drawing techniques, model building, graphic diagramming, grid perspective drawing, projection perspective drawing, and shade and shadow studies. Emphasis will continue to be on learning to think in spatial terms as well as developing a new repertoire of graphic presentation skills.

ARCH 140   Architectural Design* (3 Hours)
Prerequisites : ARCH 127.
This course introduces the student to the process and vocabulary of design. The purpose of the content is to develop the ability to solve two- and three-dimensional design problems with basic methods, vocabulary and media appropriate to the architectural profession. This course is only offered in the spring semester.

ARCH 210   Design History & Society (3 Hours)
The nature of design, even more than the traditional fine arts, responds to and is indeed inseparable from the culture and society in which it exists. This course provides a survey of design history from the nineteenth-century Industrial Revolution to the present, with emphasis on graphic and industrial design and art and architecture, examining the history of design as it corresponds to changes in economics, politics, technology, industrialization, and other societal factors. While focusing on the events and achievements in modern Western cultures there will be selected references to pre-industrial landmarks and developments and a global scope will be examined. Design will be studied as a social practice that contributes to the production, maintenance, and representation of culture and society. The course will focus less on aesthetics than on the cultural milieu in which designers have created images and objects that give physical form to intangible ideas. 3hrs. lecture/wk.

ARCH 220   Sustainability in the Built Environment (3 Hours)
This course examines evolving issues of sustainability as they pertain to the built environment. The course will cover a broad spectrum of issues, with attention focused on historical precedent, changing social matrices, technological advancements, political and regulatory consequences, and potential future transformations. Analysis of sustainability as a concept and societal goal will be considered throughout the course as we consider issues that are both local and global. 3 hrs. lecture/wk.

ARCH 244   Architectural History Before the Modern Era (3 Hours)
This course will acquaint students with the architecture and ideas of world civilizations from prehistory to the beginning of the Industrial Revolution. Emphasis is on architecture as an integrated element of the development of commercial, technological, and ideological transferences among different regions, nascent religious groups and evolving political enterprises. The course will consider architectural styles and cultures from around the globe. 3hrs. lecture/wk.

ARCH 245   Architectural History: Modern (3 Hours)
This course will investigate the architecture of the Modern Era. The focus of this course is on the principles of design, education of the architect, artistic forces and concepts of the built environment within its historical context. The work of prominent architects and their architectural theories will be covered and analyzed. 3 hrs. lecture/wk.

ARCH 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of architecture not usually taught in the curriculum to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Art (ART)

Courses

ART 124   Design 2D (3 Hours) ⏀▶
This is an introductory study of the principles of visual perception, two-dimensional space organization and the visual elements of line, shape, texture and space. Concepts, materials and processes necessary to an understanding of two-dimensional form are explored using traditional and digital tools and techniques.

ART 127   Design 3D* (3 Hours) ⏀▶
Prerequisites : ART 124.
This is a study of the function of three-dimensional organization in the development of visual ideas. Concepts, materials and processes necessary to an understanding of the three-dimensional relationships of space, form, form evolution and the dynamics of structure are explored.

ART 129   Design Color (3 Hours)
This is a study of the nature of color, its physical properties and visual qualities. Basic theories, phenomena and their applications will be explored using pigment, colored paper and digital color systems.

ART 130   Drawing I (3 Hours) ⏀▶
This is an introductory course with an emphasis on the development of fundamental drawing skills, increased power of observation and an awareness of the personally expressive and compositional aspects of drawing. 6 hrs. integrated lecture/studio/wk.

ART 131   Drawing II* (3 Hours)
Prerequisites : ART 130.
This course involves intermediate problems in drawing with emphasis on individual expression based on historical as well as contemporary concerns and approaches in art. Students will work from models, still-life, and conceptual presentations. A variety of media will be explored.

ART 135   Painting I (3 Hours)
This course is an introduction to the basic elements of painting. Students will learn basic painting skills, color properties, color mixing, color relationships, applications and proper use of tools and equipment. 6 hrs. integrated lecture/studio/wk.

ART 136   Painting II* (3 Hours)
Prerequisites : ART 135.
This course involves intermediate problems in painting with emphasis on individual expression based on historical as well as contemporary concerns and approaches in art.

ART 138   Digital Imaging for Artists I (3 Hours)
This course is an introduction to the use of the computer as a medium for making fine art. The course will emphasize developing the student's skill in making expressive visual statements using computer technology. 6 hrs. integrated lecture/studio/wk.

ART 142   Ceramics I (3 Hours)
This course is designed to build a conceptual and manual foundation for future ceramics education. Students will study the properties of clay, its preparation, hand and wheel techniques, surface design, firing methods, fundamental ceramic terms, principles of design, introductory ceramic history and orientation to safe practices for the ceramic artist. Emphasis will be on developing skills appropriate to the beginning student for the purpose of creative and technical expression. 6 hrs. integrated lecture/studio/wk.

ART 143   Ceramics II* (3 Hours)
Prerequisites : ART 142.
This course covers more advanced methods and studio practices in creative ceramic wheel expression and glaze formation. Emphasis is on development of a sense of thrown form and creative decoration or optional creative non-wheel ceramic form development. The course focuses on advanced ceramic form production, aesthetic issues, investigative study and practice. Clay, glaze and firing techniques are investigated in depth. The student acquires a repertoire of studio skills, a deeper awareness of ceramic history and articulated criteria of judgment. Individual interpretation and conceptual development are expected. The study of aesthetics of ceramic form is undertaken.

ART 145   Sculpture I (3 Hours)
Students will explore and study natural and synthetic sculptural forms as they create work using traditional or contemporary media and techniques. Assignments require work in limestone, clay, wax, bronze, aluminum and steel, and involve carving, modeling and building up. 6 hrs. integrated lecture/studio/wk.

ART 146   Sculpture II* (3 Hours)
Prerequisites : ART 145.
This continuation of ART 145 will focus on advanced methods and techniques with emphasis on materials, forms and the student's selection of an individual direction with individual material choices.

ART 148   Metal and Silversmithing I (3 Hours)
This course is a basic introduction to the terms, tools and techniques involved in creating jewelry and other wearables as they relate to the human figure. Casting, fabrication and construction will be explored. 6 hrs. integrated lecture/studio/wk.

ART 149   Metal and Silversmithing II* (3 Hours)
Prerequisites : ART 148.
Students will study advanced casting and construction techniques. Projects should show a higher degree of design and function.

ART 172   Watercolor Painting (3 Hours)
This course is an introduction to transparent water media with emphasis on learning fundamental painting skills, the visual elements, composition, visual perception and an awareness of personal expression. 6 hrs. integrated lecture/studio/wk.

ART 199   Fine Arts Symposium (1 Hour)
The purpose of this course is to introduce students to the art world. The students will see art and attend art talks from successful artists from around the country, the region, and/or the world. The Fine Art, Photo and Filmmaking Symposium has the holistic intent of teaching students the importance of learning from and participating in the art community at-large. This course requires students to attend artists' talks, studio visits, film festivals, and/or exhibitions at screenings, galleries and/or museums. Students will be better informed about the current state of the industry and what it is like to work in the field. Students will prepare for art venues, exhibitions, and lectures before attending via a faculty-led briefing on what they are about to experience and what is expected for them to learn and observe.

ART 231   Life Drawing I* (3 Hours)
Prerequisites : ART 130.
This course is an introduction to the basic elements of drawing for students wanting a concentration in drawing the human figure. Students will acquire basic competence in developing drawings involving the human form.

ART 232   Life Drawing II* (3 Hours)
Prerequisites : ART 231.
This course is an intermediate investigation of drawing from the human form. This class is for students wanting to concentrate on figure drawing beyond Life Drawing I.

ART 235   Studio Workshop I* (3 Hours)
Prerequisites : ART 131 or ART 136.
This course involves advanced problems in painting (or drawing) with emphasis on individual expression based on historical as well as contemporary concerns and approaches in art. This is a repeatable course and may be taken more than once for credit.

ART 236   Studio Workshop II* (3 Hours)
Prerequisites : ART 235.
This course involves advanced problems in painting (or drawing), above and beyond those experienced in Workshop I, with emphasis on individual expression.

ART 238   Digital Imaging for Artists II* (3 Hours)
Prerequisites : ART 138.
This course is a continued study of skills learned in Digital Imaging for Artists. Students will concentrate on creating personal imagery using digital media.

ART 244   Ceramics Workshop I* (3 Hours)
Prerequisites : ART 143 and department approval.
Students will have the opportunity to pursue advanced individual research under the direction of the instructor. Emphasis is on creative expression and development of technical skills as well as the further pursuit of technical studies that have relevance for emerging personal specializations. Students will conduct a personal program of study on one aesthetic issue that emerges as personally significant and present the outcomes in an appropriate and acceptable manner at the close of the semester. Students should initiate and pursue studies in directions that inform and further their individual professional and creative growth, which leads to invention, innovation and refinement of their personal semester work, as agreed upon with the instructor. This course enables further pursuit of technical studies that have relevance for these emerging personal specializations. Skill refinement, three-dimensional imagination, with increased creative expression and creative product generation are anticipated.

ART 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

ART 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the study of fine art, not usually taught in the curriculum. Due to the breadth and depth of the discipline, this course may expand upon a topic introduced in a current course, synthesize topics that cross-cut existing courses or explore a topic not addressed currently in the Fine Arts curriculum. Students may repeat Special Topics in Fine Arts for credit but only on different topics. This is a repeatable course and may be taken more than once for credit.

Art History (ARTH)

Courses

ARTH 135   American Indian Art (3 Hours)
This course will introduce students to some of the many art forms of the various American Indian nations of the United States. Media to be explored include textiles, beadwork, quillwork, basketry, pottery, painting, sculpture, and jewelry making. In addition, larger socio-economic issues that address American Indian art in relation to trade, art markets, and legal influences on American Indian art making will be discussed. Lectures, discussions, readings, films, and gallery visits will be used to accomplish this. Special emphasis will be paid to the collection of contemporary American Indian art housed in the Nerman Museum's Indian Art Focus Areas. ANTH 135 is the same course as ARTH 135; enroll in only one.

ARTH 180   Art History: Ancient to Medieval (3 Hours)
This course will acquaint students with the arts and ideas of world civilizations from the prehistoric period to the beginning of the Italian Renaissance. The course will examine the aesthetic elements that mark the styles of major periods in two-dimensional, three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts.

ARTH 182   Art History: Renaissance to Modern (3 Hours)
This course will acquaint students with the arts and ideas of Western cultures from the beginning of the Italian Renaissance to the present. The course will examine the aesthetic elements that mark the styles of major periods in two-dimensional, three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts.

ARTH 184   Art History: Twentieth Century (3 Hours)
This course introduces the student to the arts and ideas of Western Europe and the United States from the late 19th century to the present. The course will examine the aesthetic elements that mark the styles of major movements in two-dimensional, three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts.

ARTH 186   Art History: Introduction to Asian Art (3 Hours)
This course will acquaint students with the arts and ideas that arose in India, China and Japan from the prehistoric to the early modern periods. The course will examine the aesthetic elements that mark the styles of major periods in two-dimensional, three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts. 3 hrs. lecture/wk.

ARTH 188   History of Photography (3 Hours)
This course provides an introduction to the history of photography. Students will examine the aesthetic and technological evolution of photography as an art form, as a visual tool for and influence upon other artistic disciplines, and as a statement of perceived reality. The course will examine the elements that distinguish various aesthetic movements, the styles of major periods and the influences of individual photographers. Attention will be paid to the relationship between photographic imagery and various cultural and historical contexts.

ARTH 200   Women, Art, and Society (3 Hours)
This course examines the various roles women have played in the history of Western art – as artists, patrons, teachers, subjects and activists. We will investigate (chronologically and thematically) the ways in which women have been depicted in art (religious, mythological and secular images of women) – beginning with the prehistoric and Egyptian periods and continuing to the present day. Additionally, we will study prominent women in history who have had significant impact on the arts as active participants in the art world from the Middle Ages to the present. Lastly, we will investigate activism of contemporary women artists working today. Artists will be studied in slide and video format in class, through the reading of primary sources, and in site visit opportunities to local museums.

ARTH 292   Special Topics: (3 Hours)
This course periodically offers specialized or advanced discipline-specific content related to the study of Art History not normally taught in the curriculum to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Astronomy (ASTR)

Courses

ASTR 120   Fundamentals of Astronomy (3 Hours) ⊤▷
This course is a study of the universe from the earth, moon and planets to the stars and the most distant galaxies. Topics include black holes, quasars, and the origin of the universe and the possibility of life on other planets. Current astronomical discoveries are discussed in class as they occur. Access to astronomical websites is available to students in this course. 3 hrs. lecture/wk.

ASTR 122   Astronomy (4 Hours) ⊤▷
This course is a study of the universe from the Earth, moon and planets to the stars and the most distant galaxies. Topics include black holes, quasars, and the origin of the universe and the possibility of life on other planets. Current astronomical discoveries are discussed in class as they occur. Access to astronomical websites is available to students in this course. 3 hrs. lecture, 3 hrs. lab/wk., 5 nighttime telescope sessions are required.

ASTR 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Automation Engineer Technology (AET)

Courses

AET 110   Industrial Maintenance (3 Hours)
This is an introductory course that discusses common industrial maintenance topics, such as industrial tools and equipment, mechanical drive systems and maintenance programs. The lab component to this course will expand on concepts taught in lecture by incorporating hands-on projects using common components found in industry. 2 hrs. lecture/wk. and 3 hrs. lab/wk.

AET 120   Industrial Fluid Power (3 Hours)
This course examines theory, applications and operation of industrial hydraulic and pneumatic systems. The inspection, maintenance and repair of the various components are covered in this course. Interpretation of the various schematic symbols used in hydraulic and pneumatic circuit diagrams will be discussed. 2 hrs. lecture/wk. and 3 hrs. lab/wk.

AET 122   Industrial Code (3 Hours)
This course addresses how to reference and interpret common electrical codes found in an industrial setting. Electrical standards, such as the National Fire Protection Association (NFPA), National Electrical Code (NEC), National Electrical Manufacturers Association (NEMA) and Underwriters Laboratories (UL), will be utilized in this course.

AET 140   Actuator and Sensor Systems* (3 Hours)
Prerequisites : ELTE 110 or ELEC 234.
This course examines types, installation and troubleshooting of industrial actuators and sensors. Contemporary control methods in process control and proportional-integral-derivative (PID) process loops are covered in this course.

AET 160   Programmable Logic Controllers I* (3 Hours)
Prerequisites : ELTE 110 or ELEC 234.
This is an introductory course that examines types, installation and troubleshooting of programmable logic controllers (PLC). Hardware and programming aspects, as well as ladder logic symbols and operations necessary to develop a PLC program, are covered in this course. Students will enter, edit and test controller programs through assigned laboratory projects.

AET 185   LAN Cabling and Installation (3 Hours)

This course is designed to provide specialized skills for installing and testing local area network cabling and wireless installation. Twisted-pair, coax and fiber cables will be introduced and contrasted based on their characteristics and applications. Laboratory exercises for terminating and testing network cables and installing wireless systems will accompany the lectures. Students will be trained how to use common wiring tools and testing instruments. Methods of documenting LAN systems will also be introduced.

AET 240   Industrial Robotics* (3 Hours)

Prerequisites : ELTE 110 or ELEC 234.

This course examines types, applications and troubleshooting of industrial robots and subsystems. Included in this course is the programming of industrial robotic control software. Students learn to home a robot, test teach points and design simple robot programs for different applications.

AET 255   Motor Controls and Variable Frequency Drives* (3 Hours)

Prerequisites : ELTE 110.

This course is an introduction to three-phase plant wiring methods and motor control practices that include practical application and hands-on experience in implementing the NEC requirements. Motor installation and control, conduit bending, and various wiring methods will also be discussed. The student will explore the necessary skills to install motor control systems in an industrial manufacturing facility, meeting the minimum requirements as set forth in the current National Electrical Code (NEC). 2 hrs. lecture/wk. and 3 hrs. lab/wk.

AET 260   Programmable Logic Controllers II* (3 Hours)

Prerequisites or corequisites: AET 160.

This course is a continuation of Programmable Logic Controllers I. Principle topics include sequencers, file and block transfers, analog control and proportional-integral-derivative (PID) functions. In addition, methods of networking and advanced user interface will be covered.

Automotive Technology (AUTO)

Courses

AUTO 114   Introduction to Automotive Practices (4 Hours)

This course is an introductory course required for all students in the Automotive Technology program. Upon successful completion of this course, the student should be able to develop shop safety habits, tool usage, information management and become proficient in general vehicle service and minor electrical diagnosis, while maintaining good work habits and ethics. Emphasis will be placed on learning basic skills needed to enter advanced automotive classes.

AUTO 121   Small Engine Service (3 Hours)

Upon successful completion of this course, the student should be able to compare and contrast operating principles of two-stroke and four-stroke cycle engines. The student should be able to describe lubricating, cooling, fuel and governor systems; troubleshoot engine problems; inspect engine components; and service the fuel, cooling and exhaust systems. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

AUTO 129   Brakes I* (3 Hours)

Corequisites: AUTO 131.

Prerequisites or corequisites: AUTO 114 or AUTO 125.

Students will perform system pressure and travel calculations utilizing Pascal's Law, complete service work orders, determine appropriate system pressure tests utilizing service specifications, determine brake system concerns and necessary actions, diagnose poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system, determine how to inspect, fabricate and/or replace brake lines and hoses, determine the service specifications pertaining to the removal, cleaning and refinishing procedures on brake drums, apply drum brake repair and replacement procedures, diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation concerns on disc-brake vehicles, determine disc brake repair and replacement procedures, determine how to accomplish caliper piston retractions, diagnose wheel bearing noise, wheel shimmy and vibration concerns, and determine how to remove, inspect and replace bearing and hub assemblies through a variety of classroom and lab/shop learning and assessment activities.

AUTO 131   Brakes II* (1 Hour)

Corequisites: AUTO 129.

Prerequisites or corequisites: AUTO 114 or AUTO 125.

Students will determine necessary brake system correction, conduct system pressure tests utilizing service specifications, perform diagnosis and correction for poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system, conduct inspection, fabrication and/or replacement of brake lines and hoses, diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns, perform service specifications pertaining to the removal, cleaning and refinishing procedures on brake drums, perform drum brake repair and replacement procedures, diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns, perform disc brake repair and replacement procedures, machine rotor according to service specifications, perform caliper piston retraction where applicable, inspect and test power assist systems, determine necessary action on wheel bearing noise, wheel shimmy and vibration concern diagnoses, and perform the removal, inspection and replacement of bearing and hub assemblies.

AUTO 150   Steering and Suspension I* (3 Hours)
Corequisites: AUTO 151.
Prerequisites or corequisites: AUTO 114 or AUTO 125.
In this course students will document fundamental suspension systems concerns, perform fundamental diagnostics of steering systems, perform fundamental repairs of suspension systems, determine the need for wheel alignment, perform a four wheel alignment, and perform fundamental diagnostics and repair of wheel and tire systems.

AUTO 151   Alignment Practicum* (1 Hour)
Corequisites: AUTO 150.
Prerequisites or corequisites: AUTO 114 or AUTO 125.
This course will enhance the skills of diagnosing the need for wheel alignment and performing alignment of the steering and suspension systems.

AUTO 155   Automotive Engine Repair* (3 Hours)
Prerequisites or corequisites: AUTO 114 or AUTO 125 or department approval.
This course is designed to teach an understanding of the four-stroke cycle internal combustion engine. Students should be able to diagnose and repair cylinder heads and cylinder block assemblies to include lubrication and cooling systems. The student will be required to provide ANSI Z87 safety glasses.

AUTO 156   Electrical I* (3 Hours)
Prerequisites or corequisites: AUTO 114 or AUTO 125.
Students will complete service work orders; describe the relationship between voltage, ohms and amperage; perform basic electrical circuit repairs; identify electrical system faults; identify basic wiring diagram symbols, components, and legend information; perform basic electrical circuit measurements using a DVOM; describe basic circuit characteristics of series, parallel and series parallel circuits through a variety of classroom and shop learning and assessment activities.

AUTO 161   Engine Performance I* (3 Hours)
Prerequisites : AUTO 156.
In this learning plan students will: complete work order and check history; identify engine mechanical integrity; explore the fundamentals of fuel system theory; identify fuel system concerns; explore the fundamentals of ignition theory; identify ignition system concerns; identify induction system concerns; identify exhaust system concerns; identify engine mechanical integrity through a variety of learning and assessment activities.

AUTO 162   Electrical II* (3 Hours)
Prerequisites : AUTO 156.
This course is designed to teach starting system diagnosis and repair, charging system diagnosis and repair, and lighting systems diagnosis and repair.

AUTO 201   ASE Certification Review* (1 Hour)
Prerequisites or corequisites: (AUTO 208 or AUTO 214) and (AUTO 207 or AUTO 209) and (AUTO 211 or AUTO 221) and (AUTO 250 or AUTO 252).
This course will prepare students to take any of the eight (8) basic National Institute for Automotive Service Excellence (ASE) automotive student certification tests.

AUTO 205   Engine Performance II* (3 Hours)
Prerequisites : AUTO 161.
Upon successful completion of this course, the student should be able to describe the operation of engine management systems to include: general engine diagnosis, computerized engine controls diagnosis and repair, fuel, air induction, and exhaust diagnosis and repair, and emissions control systems diagnosis and repair. The student will be required to provide ANSI Z87 safety glasses and will be expected to provide other basic hand tools and/or equipment.

AUTO 207   Manual Drivetrains and Axles* (3 Hours)
Prerequisites : (AUTO 114 or AUTO 125) and AUTO 156.
This course covers the theory of operation and service procedures for drivelines, constant velocity joints, manual transmissions and transaxles, differentials, clutches, and driveline phasing including noise, harness, and vibration analysis, and four wheel drive/all wheel drive systems.

AUTO 211   Automotive Heating and Air Conditioning* (3 Hours)
Prerequisites : AUTO 156.
This course is designed to teach the operation, service, diagnoses and repair of automotive heating, ventilation and air conditioning systems. The theory and operation of these systems, major components, testing, recycling and other service procedures will be covered.

AUTO 214   Electrical III* (4 Hours)
Prerequisites : AUTO 162 or AUTO 166.
This course is designed to teach advanced electrical/electronic systems. Students will perform general electrical system diagnosis; gauges, warning devices, and driver information systems diagnosis and repair; and body electrical systems diagnosis and repair.

AUTO 215   Engine Performance III* (3 Hours)
Prerequisites : AUTO 205.
Upon successful completion of this course, the student should be able to service and repair fuels systems, ignition systems, and exhaust systems. The student will be required to provide ANSI Z87 safety glasses and will be expected to provide other basic hand tools and/or equipment.

AUTO 237   Diesel and Hybrid Vehicles Maintenance and Light Repair* (3 Hours)
Prerequisites : AUTO 131 and (AUTO 162 or AUTO 166) or department approval.
This course is designed to teach an understanding of hybrid electric, diesel powerplants and related vehicle systems as it pertains to light maintenance and repair.

AUTO 252   Automatic Transmissions* (3 Hours)
Prerequisites : AUTO 162 or AUTO 166.
This course is designed to teach diagnoses, service and repair of various automatic transmissions and automatic transaxles, both on vehicle and off vehicle, including computer-controlled systems.

AUTO 265   Comprehensive Vehicle Diagnosis* (3 Hours)
Prerequisites : AUTO 161 and (AUTO 162 or AUTO 166).
This course is designed as a comprehensive technical course for learners in the Automotive Technology major. The course is primarily a lab-based course, with most of the course work consisting of diagnosing and repairing various problems on cars that the student may not have encountered in previous classes. Labs will test the learner on their ability to diagnose failures on a complete vehicle scale that include all electrical and mechanical systems and how they function relative to each other. As a portion of the course, reviewed material will follow the eight ASE 2017 standard areas of study, and will expand upon these areas via diagnostic and industry standard technical material and testing methods. Usage of the proper diagnostic processes is required for success in this course. Proper use of lab scopes, DVOM's, scan tools, and other high level diagnostic equipment are crucial to success in the course.

AUTO 271   Automotive Technology Internship* (3 Hours)
Prerequisites : (AUTO 162 or AUTO 166) or Department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals.

AUTO 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Biology (BIOL)

Courses

BIOL 121   Introductory Biology for Non-Majors (4 Hours) ⏀
This course introduces non-majors to selected concepts and principles that form the foundation of an understanding of how biological systems operate. The importance of scientific methods and processes will be explored. Biological systems will be investigated at a variety of levels, from the chemical to the biosphere, and the unity of diversity of life will be examined in light of evolutionary and genetic processes. 3 hrs. lecture & 2 hrs. instructional lab/wk.

BIOL 125   General Botany (5 Hours)
This is a survey of the life, growth and structure of plants. Divisions of the plant kingdom will be presented with emphasis on life cycles, anatomy, physiology and ecology of major groups. Students will do microscopic and macroscopic analysis of the major division.

BIOL 127   General Zoology (5 Hours)
This is a survey of the life, structure, and growth of animals. Students will concentrate on identifying animals by their structural characteristics and looking at the role adaptation plays in anatomical and physiological features. Students will do dissections and microscopic analysis of the major phyla.

BIOL 132   Introduction to Public Health (3 Hours)
This is an introductory course in public health. It provides a background in many areas of public health with an emphasis on the health system and understanding and measuring health, disease and illness. Epidemiology, food safety and animal health will also be examined. Public health emergency preparedness, the public health workforce and public health administration will also be studied. Students will learn about public health nursing, public health education and the role of law and government in public health. Students will also examine environmental and occupational health. The different types of public health professional occupations and future challenges for public health will be examined.

BIOL 135   Principles of Cell and Molecular Biology (4 Hours) ⏀
This course is for biology majors and students planning to take additional courses in the life sciences. Subjects covered include the nature of science; the levels of organization and emergent properties of life; basic biochemistry and bioenergetics; cell structure and function; cellular reproduction; Mendelian and molecular genetics and their relationships to the principles of evolution; basic laboratory skills; and experimentation. The lab activities allow for application of the topics presented in the lecture.

BIOL 140   Human Anatomy (4 Hours) ⏀
Students will study gross and microscopic aspects of cells, tissues and organ systems of the human body. They will concentrate on a detailed analysis of the structure of each body system.

BIOL 144   Human Anatomy and Physiology* (5 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness .
This course provides basic knowledge on human structures and their function. Students will study the relationship of structures to function in the organ systems of the human body. Emphasis will be on the identification of the anatomical features and their functions. This is an integrated lecture and lab course.

BIOL 145   Human Anatomy and Physiology Dissection* (1 Hour)
Prerequisites : BIOL 144 and department approval.
Students will dissect the cat and study the relationship of structures to function in the organ systems of the cat. In this laboratory course, they will also dissect the cow kidney, heart, brain and eye. Students will compare and contrast these structures and functions with the organ systems of the human body.

BIOL 150   Biology of Organisms* (5 Hours)
Prerequisites : (RDG 096 or RDG 126 or College Reading Readiness) and (BIOL 125 or BIOL 127 or BIOL 135) or department approval.
This is a survey of the three domains of life. Archaea, bacteria, and eukaryotes will be presented, with emphasis on life cycles, anatomy, physiology, evolution, and ecology of the major groups. This is an integrated lecture and lab course.

BIOL 161   Introduction to Biotechnology (4 Hours)
This course is an introduction to biotechnology, including career exploration, history and applications of Deoxyribonucleic acid (DNA)/ribonucleic acid (RNA) technology, molecular biology, and bioethics. General manufacturing practice will be utilized throughout the course and students will use and develop Standard Operating Procedures (SOP) for biotechnology related protocols. Students will learn the history and ethical uses of biotechnology, and be expected to communicate topics related to biotechnology to the general public.

BIOL 205   General Genetics* (4 Hours)
Prerequisites : BIOL 135 with a grade of "C" or higher.
This introductory course emphasizes human heredity using concepts from classical and modern genetics. Themes of advancing technologies and bioethical issues are interwoven in the basic background fabric of the course.

BIOL 225   Human Physiology* (4 Hours)
Prerequisites : BIOL 140 or BIOL 144.
Prerequisites or corequisites: CHEM 122 or (CHEM 124 and CHEM 125).
This is an introduction to the dynamic functions of the human organism, from the chemical and molecular mechanisms that sustain cellular processes through the control systems responsible for homeostasis and the influence of these systems on the cellular function of organ and systems operation. Laboratory investigation using selected biochemical and physiological preparations allows correlation of theory with experimental observations.

BIOL 227   Human Pathophysiology* (4 Hours)
Prerequisites : BIOL 144 or BIOL 225.
This introduction to the physiology of disease covers common disorders of the body from the cellular to the systemic level. Topics include causes, symptoms, diagnostic tests and treatments of disease.

BIOL 230   Microbiology* (3 Hours)
Prerequisites : CHEM 122 or (CHEM 124 and CHEM 125).
This is a general introductory course in microbiology. It provides a background in many areas of microbiology with an emphasis on medical aspects. The structure, physiology, antimicrobial agents, immunology, and host-parasite relationship of microorganisms will be studied.

BIOL 231   Microbiology Lab* (2 Hours)
Prerequisites or corequisites: BIOL 230.
Students will learn aseptic techniques and apply them in the isolation of pure cultures of bacteria. Students will also perform various staining techniques and chemical tests to identify these bacteria. The response of bacteria to environmental changes will be examined. Life stages of medically important parasites will be observed.

BIOL 235   The Science of Human Nutrition* (3 Hours)
Prerequisites : BIOL 140 or BIOL 144.
This course integrates basic concepts of biology and biochemistry with the science of human nutrition. Topics include fundamentals of a healthy eating pattern, sources and functions of various nutrients, nutrient digestion, absorption, and energy metabolism. Food safety and nutritional information including food labels, advertising, and nationally established guidelines will be addressed. Students will also explore underlying causes and rationale for prevention and treatment of diseases, and the relationship of nutritional requirements to the stages of life cycle from conception through the end of life.

BIOL 240   General Pharmacology* (3 Hours)
Prerequisites : BIOL 225.
This course provides a basic understanding of the science of drugs-how they work and what they do. Students will study various drug concepts including mechanism of action, pharmacologic class, pharmaco-kinetics, pharmacodynamics and clinical implications.

BIOL 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Business (BUS)

Courses

BUS 121   Introduction to Business (3 Hours)
Upon successful completion of this course, the student should be able to define the free enterprise system and explain the fundamentals of business creation. Students should be able to describe the interrelationship between the different business areas of accounting, finance, information systems, management, operations and marketing. The student should also be able to explain how ethics and responsible business citizenship are applicable to each area of a business. 3 hrs. lecture/wk.

BUS 123   Personal Finance (3 Hours)
Upon successful completion of this course, the student should be able to develop a basic financial plan, calculate principal and interest, identify the types of consumer credit, make housing decisions, fill out a tax form and determine individual insurance needs. 3 hrs. lecture/wk.

BUS 140   Principles of Supervision (3 Hours)
Upon successful completion of this course, the student should be able to define the supervisor's role within a company and identify the skills necessary to successfully fulfill that role. In addition, the student should be able to determine the supervisor's role in supervising employees on an individual basis and as a group. The student should also be able to apply the principles of supervision in simulated work situations. 3 hrs. lecture/wk.

BUS 215   Savings and Investments (3 Hours)
Upon successful completion of this course, the student should be able to define, analyze and evaluate types of savings instruments and other investments. In addition, the student should be able to determine which instruments are desirable for a personal financial plan. The student should also be able to demonstrate an understanding of basic financial-planning concepts and tax-planning procedures. 3 hrs. lecture/wk.

BUS 225   Organizational Behavior (3 Hours)
Upon successful completion of this course, the student should be able to evaluate the impact of organizational behavior as it relates to the social system, technical system, and administrative system of a work environment. In addition, the student should be able to analyze these systems and their effects on an individual group and organizational performance.

BUS 235   Introduction to International Business (3 Hours)
This course is designed to introduce the student to the global economy. Differences in political, economic and cultural forces within countries will be analyzed and national competitiveness assessed. Cross-border trade and investment and the global monetary system will be introduced and analyzed. Competition and a firm's international business strategy in the global marketplace will be examined. Ethical issues in international business global marketing and international human resource management practices will be examined as well.

BUS 241   Principles of Management (3 Hours)
Upon successful completion of this course, the student should be able to state the basic functions of management, explain the nature of organizations and organizational theories and types, explain the importance of effective communication within the organizational structure, develop and define the techniques for directing and motivating employees, explain the effects of change on an organization, and develop techniques for coping with those effects. In addition, the student should be able to explain and discuss the application of business ethics in managerial decision-making.

BUS 243   Human Resource Management (3 Hours)
Upon successful completion of this course, the student should be able to state the principles of human resource management; describe the human resource function as an integral part of management; differentiate between roles of the personnel and line manager in the management of human resources; define and evaluate strategic planning, recruitment, selection and training; define the primary methods of human resource development; employ methods of employer appraisal; and state the major components and coverages of the Equal Employment Opportunity Act and other personnel/human resource-related laws. 3 hrs. lecture/wk.

BUS 245   Small Business Management (3 Hours)
Upon successful completion of this course, the student should be able to demonstrate an understanding of management techniques vital to small businesses. In addition, the student should be able to apply decision-making skills in the areas of business start-up choosing the form of ownership, marketing, financial planning, and managing the small business.

BUS 270   Business Administration Internship (1 Hour)
Upon successful completion of this course, the student will be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in business administration. A minimum of 8 or more hours a week of on-the-job training is required.

BUS 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of Business, not usually taught in the curriculum. This is a repeatable course and may be taken more than once for credit.

Business Law (BLAW)

Courses

BLAW 261   Business Law I* (3 Hours) ⏴
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness or department approval.
This course introduces students to the organization and structure of the American legal system as it applies to business. Upon successful completion of this course, students should be able to identify potential legal problems in their businesses and recognize when to engage the services of an attorney. The application of legal ethics to business situations will be covered. The distinction between criminal law and civil tort law, and how to apply criminal law and civil law to factual situations involving businesses, will be taught. The common law will be applied to contracts. Concepts of real property, personal property, and intellectual property will be covered. The principles of agency, the different forms of business organizations, and employment law will be introduced.

BLAW 263   Business Law II* (3 Hours)
Prerequisites : BLAW 261 with a grade of "C" or higher or BUS 261 with a grade of "C" or higher or Department approval.
A continuation of Business Law I, this course teaches students the principles of sales contracts, secured transactions, business entities, corporate law, and administrative law. Upon successful completion of this course, students should be able to identify potential legal problems in their businesses and recognize when to engage the services of an attorney. Article 2 of the Uniform Commercial Code will be applied to contracts. Concepts of product liability, estates and trusts, and insurance law will be introduced. The principles of secured transactions, bankruptcy, and commercial paper will be covered. The formation, operation, and dissolution of the different business forms will be taught. Professional responsibility, shareholders' rights, consumer protection, administrative law, employment law, and environmental law will be covered.

Business Office Technology (BOT)

Courses

BOT 101   Keyboarding (1 Hour)
This course is for students who do not know how to correctly keyboard by touch. This course is also for students who need to improve their keyboarding speed to at least 25 words per minute. 1 hr./wk.

BOT 105   Business Document Preparation* (3 Hours)
Prerequisites : BOT 101 or waiver exam.
This course will prepare students to effectively and efficiently create, format and proofread business documents, such as letters, memos, emails, tables, reports, PDFs, envelopes, labels and other administrative documents, utilizing word processing skills. Students will also practice proper keyboarding technique to build speed and accuracy.

BOT 130   Business Office Procedures (3 Hours)
This course will prepare the student to apply business office procedures relevant to today's digital office. Emphasis will be on essential hard skills including managing communication systems, managing calendars, scheduling appointments, organizing meetings, arranging travel, processing mail, handling banking activities and managing records. In addition, the student will learn about the administrative professional career field.

BOT 141   Electronic Health Records Applications (3 Hours)
This course will prepare the student to effectively use an electronic health record and practice management program used in medical practices. Emphasis will be placed on handling patient records and transactions including insurance and claim processing. Students will manage related administrative tasks such as scheduling appointments, posting payments, and creating statements and reports. Near the end of the course, students will sit for the Certified Electronic Health Records Specialist (CEHRS) exam. The exam fee is included in the cost of the textbook for this class.

BOT 150   Records Management* (3 Hours)
Prerequisites : (CPCA 114 or CSS 114) or (CPCA 228 or CSS 228).
This course will prepare the student to store, retrieve, protect, transfer, and retain or destroy physical and electronic records. This course provides information about the records management industry, legislation, filing procedures, storage methods, needed supplies and career opportunities.

BOT 170   Introduction to Medical Coding and Billing* (3 Hours)
Prerequisites : HC 130.
This course is designed to give the student an overview of the medical insurance billing process. This includes becoming acquainted with ICD, HCPCS and CPT procedural coding systems as well as payers. Students will be given hands-on coding advice for optimal insurance reimbursement.

BOT 260   Desktop Publishing for the Office: Publisher* (3 Hours)
Prerequisites : CSS 128 or CPCA 128 or (CSS 108 or CPCA 108 and CSS 110 or CPCA 110).
This course will prepare students to use a desktop publishing program to design, format, edit and print business office publications such as letterheads, business cards, newsletters, brochures, emails, business forms, manuals and other promotional materials using basic and advanced desktop publishing features.

BOT 265   Business Office Simulation* (3 Hours)
Prerequisites : BOT 105 and BOT 130 and BOT 150.
Prerequisites or corequisites: (BUS 141 or BUS 241) and BUS 225 and BUS 243 and ENGL 123.
This capstone course is for degree-seeking students who will demonstrate advanced business office and technology skills, knowledge and abilities for working in a simulated office environment with their peers. Students will work in various office positions as a member of the team to manage projects, solve problems and make decisions. Near the end of the course, students will sit for the Certified Administrative Professional (in progress) [CAP (ip)] exam. The exam fee is included in the cost of the textbook for this class.

BOT 275   Office Internship* (1 Hour)
Prerequisites or corequisites: BOT 265.
This course provides the student an opportunity to apply knowledge, skills and abilities acquired during the program to an appropriate work environment. The internship will require a minimum of 120 hours of workplace training.

Chemistry (CHEM)

Courses

CHEM 100   Preparation for Chemistry (3 Hours)
This course is designed for students who have never taken high school chemistry, are struggling with their current chemistry course or have anxiety about chemistry. It is intended to prepare students described above for CHEM 122 or CHEM 124; emphasis on study skills, scientific calculations, problem solving and basic chemical concepts. 3 hrs. lecture/wk.

CHEM 120   Chemistry in Society* (4 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This course is designed for non-science majors who seek an understanding of the concepts of chemistry. Historical foundations of chemistry, applications to society and daily life, controversies of contemporary concern and current research topics are explored. Inquiry-based laboratory experiments will illustrate chemical principles. This is a lecture and lab course.

CHEM 122   Principles of Chemistry* (5 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This course is an introduction to the fundamentals of chemistry, with emphasis on general concepts of inorganic chemistry and sufficient study of organic chemistry to introduce the student to biochemistry. The student will learn basic definitions and theories of chemistry, solve numerical problems related to chemical principles and apply chemical concepts in laboratory work. This is a lecture and lab course.

CHEM 124   General Chemistry I Lecture* (4 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
Corequisites: CHEM 125.
Prerequisites or corequisites: MATH 171 or MATH 173 or placement test.
Students will relate atomic structure to chemical systems, calculate the amount of material used in chemical reactions, use the periodic table as an aid to understanding chemical systems and interpret chemical reactions.

CHEM 125   General Chemistry I Lab* (1 Hour)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
Corequisites: CHEM 124.
Prerequisites or corequisites: MATH 171 or MATH 173 or placement test.
Experiments of a qualitative and quantitative nature that support topics from General Chemistry I Lecture will be carried out.

CHEM 131   General Chemistry II Lecture* (4 Hours)
Prerequisites : CHEM 124 and CHEM 125.
Corequisites: CHEM 132.
Chemistry 131 is the second semester of a two-semester course in general chemistry in which the student will develop a working knowledge of some of the fundamental concepts and quantitative relationships involved in the study of chemical reactivity. Topics include solutions, chemical kinetics, chemical equilibrium, acid-base chemistry, chemical thermodynamics, electrochemistry, and nuclear chemistry.

CHEM 132 General Chemistry II Lab* (1 Hour) ⚐
Prerequisites : CHEM 124 and CHEM 125.
Corequisites: CHEM 131.
The laboratory consists of qualitative and quantitative experiments designed to parallel and support General Chemistry II Lecture. Students who withdraw from GENERAL CHEMISTRY II LECTURE must also withdraw from the corresponding laboratory GENERAL CHEMISTRY II LABORATORY. Students may not withdraw from the laboratory course GENERAL CHEMISTRY II LABORATORY without withdrawing from CHEMISTRY II LECTURE.

CHEM 140 Principles of Organic & Biological Chemistry* (5 Hours)
Prerequisites : (BIOL 121 or BIOL 135) and CHEM 122 or (CHEM 124 and CHEM 125) or department approval.
This course covers nomenclature, theory and applications of basic organic chemistry and biochemistry in the area of carbohydrates, lipids, proteins and enzymes. The lab activities reinforce the topics presented in the lecture.

CHEM 220 Organic Chemistry I* (5 Hours)
Prerequisites : CHEM 131 and CHEM 132.
Organic Chemistry I is an introduction to the theories and principles of the chemistry carbon compounds. The student will develop an understanding of organic chemistry, which will be useful in the studies of chemistry and related fields such as medicine, engineering and pharmacy. The laboratory is supportive in nature, with a strong emphasis on developing laboratory techniques. Representative compounds will be prepared and used to introduce the student to instrumental analysis.

CHEM 221 Organic Chemistry II* (5 Hours)
Prerequisites : CHEM 220.
Organic Chemistry II is a continuation of Organic Chemistry I, the nomenclature, principles and theories of organic chemistry, with emphasis on electronic theories and reaction mechanisms. Laboratory is supportive in nature with emphasis on developing laboratory techniques and preparation of representative compounds. Organic Chemistry II completes the study of organic chemistry designed to prepare the student for continued work in chemistry and related fields.

CHEM 250 Biochemistry* (4 Hours)
Prerequisites : CHEM 131 and CHEM 132 and (CHEM 140 or CHEM 220).
This course is an introduction to the major topics in biochemistry. Topics include the major classes of biological molecules, such as proteins, lipids and nucleic acid; an overview of the major metabolic pathways; and developments and topics relating to molecular biology.

CHEM 291 Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

College Success (COLL)

Courses

COLL 010 Basic Math Review (1 Hour)
Students will develop basic arithmetic skills covering whole numbers, fractions, and decimals. This class will benefit students who have struggled to master these skills in the past or who need review of basic math concepts. This class will provide a foundation for success in subsequent developmental math classes. This course does not fulfill degree requirements.

COLL 013 Algebra Preparation (1 Hour)
Students will develop basic algebra skills covering the language of algebra and algebraic notation, integers, fractions, simplifying expressions, and solving equations. This class will benefit students who have never taken algebra and need a bridge between arithmetic and algebra or who need to review basic algebra concepts. This class will provide a foundation for success in subsequent math classes. This course does not fulfill degree requirements.

COLL 076 Study Skills (1 Hour)
This course is designed to improve students' ability to study efficiently. Students will master basic cognitive learning theory, time management, textbook reading, note taking from textbooks and from lectures, and test-taking. This course does not fulfill degree requirements.

COLL 082 Basic Spelling (3 Hours)
Students will improve their spelling skills through structured instruction in morphographs (units of meaning) and rules for combining to create English words. This course will benefit students who have not succeeded with traditional spelling instruction or for whom English is a second language. This course is beneficial for vocabulary development, as well as building proficiency in spelling conventions. This course does not fulfill degree requirements.

COLL 086 Vocabulary Development (1 Hour)
Students will learn how to use context clues and word parts to infer a word's meaning. Students will study vocabulary words and practice using them in context. This class will aid reading comprehension and language acquisition through increasing a student's vocabulary. This course does not fulfill degree requirements.

COLL 090   Individualized Study (1 Hour)
This course is for students who have taken a developmental College Success course in mathematics or vocabulary and wish to continue advancing their skills. An individually designed course of study will be created to advance student skills in these areas. This course does not fulfill degree requirements.

COLL 135   Career and Life Planning (3 Hours)
This course helps students make decisions about their college majors, careers and other life goals. It emphasizes career research as a tool for making current career decisions and meeting changes in the future workplace. Students learn a systematic approach for making career and life decisions based on their personalities, interests, skills, and values.

COLL 140   Designing Your Life (3 Hours)
Life Design is a creative and human-centered problem-solving approach to navigate change and transition throughout life. This class will focus on the roots of a happy and meaningful life, melding research-proven practices to apply to life design and satisfaction. With a basis in career education, positive psychology, and design thinking, life design skills can be used as individuals manage the change that is part of life.

COLL 150   Job Search Skills (1 Hour)
This class presents the skills students need to conduct an effective job search, including locating job leads, writing resumés, employment interviewing and job correspondence. Additionally, students will explore the importance of adapting to changes in the workplace to ensure their job survival and success. The class consists of lectures, activities, discussion and exercises in the career planning and job search process.

COLL 174   Learning Strategies for Math (1 Hour)
This course teaches thinking and study skills specifically geared toward the learning of math. Students practice these skills on their math textbooks and homework assignments as well as in their math class discussions and lectures. This course also addresses feelings and attitudes that may block math learning and offers strategies and techniques designed to overcome these feelings. College Success courses offer students opportunities to acquire the thinking and learning skills needed to be a successful learner, including reading textbooks, taking notes, organizing information and preparing for tests.

COLL 176   College Study Strategies (1 Hour)
Upon completion of this course, students will be able to apply a series of strategies for processing college-level information from textbooks and lectures including effective test preparation and taking tests. As the strategies are introduced, students apply them to the content of courses in which they are concurrently enrolled. Upon successful completion of the course, students will have developed a system for learning that can be adapted for use in any learning situation. College Success courses offer students opportunities to acquire the thinking and cognitive skills needed to be a successful learner, including reading textbooks, taking notes, organizing information, and preparing for tests.

COLL 178   Memory Strategies (1 Hour)
In this course, students learn a series of techniques to help them improve their retention and recall of information needed for success in college courses. These techniques provide a systematic approach to learning and remembering. Students immediately use the techniques to learn information from their other college courses. College Success courses offer students opportunities to acquire the thinking and learning skills needed to be a successful learner, including reading textbooks, taking notes, organizing information and preparing for tests.

COLL 186   Exam Strategies (1 Hour)
This course offers students an opportunity to explore their own learning styles and to develop appropriate strategies for improving test performance through improved learning procedures. Emphasis will be on practical application of the learned strategies to courses in which the students are concurrently enrolled. College Success courses offer students opportunities to acquire the thinking and learning skills needed to be a successful learner, including reading textbooks, taking notes, organizing information and preparing for tests.

COLL 200   College Success Strategies (3 Hours)
This course provides students with opportunities to develop skills and habits that will help them establish and maintain effective learning systems. Students first learn and practice the learning methods in class and then apply these methods to appropriate situations in their other college coursework. The methods, which are based on valid learning and thinking principles, will help students meet the higher-level demands of the subjects encountered in college courses. College Success courses offer students opportunities to acquire the thinking and learning skills needed to be a successful learner, including reading textbooks, taking notes, organizing information and preparing for tests.

COLL 235   Experiential Career Practicum (1-2 Hour)
This course will focus on the application of academic knowledge, skills, and understanding to experiences as a developing professional in the workplace. Focusing on an occupational area of interest, students will build strategies to incorporate career development with internship, job shadowing, service learning, and/or leadership experiences. This course will require students to attend class sessions focused on the practical application of career strategies, as well as participate in experiential learning in the community. Students will be required to self-evaluate and complete a competency project based on their experiential learning opportunities.

COLL 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of college success and career development not usually taught in the curriculum. This is a repeatable course and may be taken more than once for credit.

Communication Studies (COMS)

Courses

COMS 120   Interpersonal Communication (3 Hours) ⏏
This course focuses on the principles of effective speech communication in small group and one-to-one relationships. Theory and practice of interpersonal communication are studied and applied to a variety of life situations. The course focuses on perception, self-concept, listening, conflict, language, nonverbal communication, computer mediated communication, culture, and gender as they relate to interpersonal relationships.

COMS 121   Public Speaking (3 Hours) ⏏
This course is designed to meet the needs of people who wish to improve their ability to prepare and deliver effective oral presentations before an audience. This fundamental speech course emphasizes creation of ideas, research techniques, outlining, organization, audience analysis, listening skills, delivery techniques, and online public speaking skills. Students will deliver a variety of speech types including informative and persuasive.

COMS 125   Personal Communication (3 Hours)
This course examines the theory and concepts of the most frequently used human communication skills, interpersonal communication and public speaking, in a variety of contexts. The course demonstrates the natural relationships between communicating one-to-one and in public, showing that skills in one can be employed in the other, and also provides practice and development of skills in both areas.

COMS 130   Elementary Debate (3 Hours)
This course is designed for those students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Students are expected to participate in debate rounds in order to develop skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation.

COMS 132   Intermediate Debate I* (3 Hours)
Prerequisites : COMS 130.
This course is designed for those students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Students are expected to travel to tournaments in order to develop skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation. Students enrolling in this course will be required to participate as members of the intercollegiate debate team and will attend an appropriate number of weekend intercollegiate debate tournaments a semester.

COMS 155   Workplace Skills (1-2 Hour)
This course focuses on communication concepts and skills utilized in the workplace. The course demonstrates the relationships between listening; oral communication; human relations skills; problem-solving and teamwork dynamics; time and resource management; and work ethics and job interviewing; with success in a student's desired field.

COMS 180   Intercultural Communication (3 Hours)
The Intercultural Communication course is concerned with communication theory as it relates to cross-cultural interactions. This course utilizes concepts drawn from sociology, psychology, anthropology and communication. Focus is on identifying the cultural bases of beliefs, attitudes, values and behaviors. Objectives include recognizing commonalities across cultures, tolerating ambiguity in a variety of situations, developing a more global multicultural perspective, identifying and appreciating other cultural orientations, and recognizing and assigning cultural explanations to specific behaviors.

COMS 230   Intermediate Debate II* (3 Hours)
Prerequisites : COMS 132
This course is designed for students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Students are expected to travel to tournaments in order to develop skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation. Students enrolling in this course will be required to participate as members of the intercollegiate debate team and will attend an appropriate number of weekend intercollegiate debate tournaments a semester.

COMS 235   Advanced Debate* (3 Hours)
Prerequisites : COMS 230.
This course is designed for students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Students are expected to travel to tournaments in order to develop skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation will be developed. Students enrolling in this course will be required to participate as members of the intercollegiate debate team and will attend an appropriate number of weekend intercollegiate debate tournaments a semester.

COMS 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

COMS 292   Special Topics:* (3 Hours)
Prerequisites : Department approval.
This course periodically offers specialized or advanced discipline-specific content related to the study of communication not usually taught in the curriculum. This course may expand upon a topic introduced in a current course, synthesize topics that span across existing courses, or explore a topic not currently addressed in the Communication Studies curriculum. Students may repeat Special Topics in Communication Studies for credit, but only on different topics. This is a repeatable course and may be taken more than once for credit.

Computer Desktop Publishing (CDTP)

Courses

CDTP 135   Desktop Photo Manipulation I: Photoshop* (1 Hour)
Prerequisites : Basic computing skills are recommended.
In this career-related short course, students will learn software training in Adobe Photoshop by producing raster images. Students will create and edit photos and raster images through digital manipulation. Students will study tools, techniques, electronic color theory, graphic formats, file management skills, image and device resolution, and project workflows with photos and raster images.

CDTP 140   Desktop Publishing I: InDesign* (1 Hour)
Prerequisites : Basic computing skills are recommended.
In this career-related course, students will learn software training in Adobe InDesign by producing page layout documents. Students will create single and multi-page documents, digital typography, and page layouts by arranging and distributing images, graphics, and other design elements. Students will study tools, techniques, graphic formats, file management skills, and project workflows with digital images, graphics, and text assets.

CDTP 145   Desktop Illustration I: Illustrator* (1 Hour)
Prerequisites : Basic computing skills are recommended.
In this career-related course, students will learn software training in Adobe Illustrator by producing digital illustrations. Students will create vector graphics and illustrations utilizing digital drawing, painting, and shape tools. Students will study tools, techniques, graphic formats, electronic color theory, file management skills, and project workflows with graphics and text assets.

CDTP 155   Desktop Photo Manipulation II: Photoshop* (1 Hour)
Prerequisites : CDTP 135 or CDTP 190.
In this career-related short course, students will manipulate digital photographs and images using a variety of introductory to intermediate techniques on either the Macintosh or PC computer platform. Students will apply techniques to edit masks and channels, process and enhance multiple image file formats, group and apply adjustments to layers, automate common tasks, create composite images, learn and apply intermediate scanning techniques, and apply multiple creative and adjustment filters on a variety of digital photographs and images.

CDTP 160   Desktop Publishing II: InDesign* (1 Hour)
Prerequisites : CDTP 140 or CDTP 190.
In this career-related course, students will create intermediate-level page layout documents using a variety of techniques on either the Macintosh or PC computer platform. Students will learn how to work with type styles, threads, columns, special characters, hanging indents, vertical spacing, and tables as well as explore PDF files. Students will also be able to master several aspects of working with graphic images: placing images, linking, clipping paths, libraries, grids, compound paths, reflections, and drawing Bézier curves. Finally, students will work with advanced framing techniques to nest frames within shapes.

CDTP 165   Desktop Illustration II: Illustrator* (1 Hour)
Prerequisites : CDTP 145 or CDTP 190.
In this career-related course, students will create intermediate-level computer-generated illustrations using a variety of techniques on either the Macintosh or PC computer platform. Students will trace an object, create complex gradients with custom blends, create complex objects receding toward a vanishing point, and create an orthogonal projection to simulate depth.

CDTP 168   Desktop Publishing III: InDesign* (1 Hour)
Prerequisites : CDTP 160.
In this career-related course, students will create advanced-level page layout documents using a variety of techniques on either the Macintosh or PC computer platform. Students will learn how to work with advanced color specifications, transparency blending modes, long document organization, and brochure layout production art.

CDTP 175   Desktop Photo Manipulation III: Photoshop* (1 Hour)
Prerequisites : CDTP 155.
In this career-related short course, students will manipulate digital photographs and images using a variety of beginning, intermediate and advanced techniques on either the Macintosh or PC computer platform. Students will apply techniques to create and design typographic elements, use vector drawing techniques, prepare images for print, optimize images for web output, and use a digital photo preparation workflow on a variety of digital photographs and images, including scanned images.

CDTP 185   Desktop Illustration III: Illustrator* (1 Hour)
Prerequisites : CDTP 165.
In this career-related course, students will create advanced computer-generated illustrations using a variety of techniques on either the Macintosh or PC computer platform. Students will create charts, autotrace scanned images, fill objects with various pen-and-ink filter effects and create an image map for the Web.

CDTP 190   Applications for Visual Design* (3 Hours)
Prerequisites : Basic computing skills are recommended.
In this career-related course, students will learn basic digital media skills, key concepts, and software training in various industry-standard and Adobe Creative Cloud applications through the production of visual design projects. Students will create raster images, vector graphics, and typography for web, print, and motion media. Students will study tools, techniques, electronic color theory, graphic formats, image, and device resolution, and synthesize digital media visual design projects.

CDTP 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Computer Information Systems (CIS)

Courses

CIS 124   Introduction to Computer Concepts and Applications (3 Hours)
In this introductory, non-technical computer course, students will learn through hands-on assignments to use current computer technologies to enhance personal and professional productivity. This includes current and emerging computer and Internet technologies, as well as desktop and web-based business applications. Students will learn strategies for evaluating the validity, legitimacy, and productivity potential of future technologies as they emerge, as well as how to assess the privacy risks associated with each. 3 hrs. lecture/wk.

CIS 142   Beginning Programming using Python (4 Hours)
In this introductory course, students will create computer applications that perform tasks and solve problems. Students will utilize fundamental logic, problem-solving techniques and key programming concepts to design, develop and test modular applications written in the Python programming language. 3 hrs. lecture, 2 hrs. open lab/wk.

CIS 201   Introduction to Information Systems* (3 Hours)
Prerequisites : ACCT 121.
This course introduces students to contemporary information systems and demonstrates how these systems are used throughout global organizations. Students will study key information system components and learn how these components are best leveraged by businesses. This course also provides an introduction to systems and development concepts, technology acquisition and various types of emerging or prevalent application software.

CIS 204   UNIX Scripting and Utilities* (3 Hours)
Prerequisites : CS 134 or CIS 142.
This course will cover the concepts and principles related to scripting for the multiuser, multitasking UNIX operating system and its utilities. Students will complete projects in UNIX ranging from using simple commands to writing shell scripts automating repetitive tasks.

CIS 208   Mobile Application Development* (4 Hours)
Prerequisites : CS 205.
In this course, students will utilize effective design and structured programming techniques to build mobile applications. Topics will include designing interfaces for small screens and varied architectures, processing user events, retrieving and storing data, communicating via the Internet, and deploying applications.

CIS 240   Advanced Topics in Java* (4 Hours)
Prerequisites : CS 205.
At the completion of this course, the student should be able to create Java applications for implementation on the Internet and the personal computer. The student will complete projects using Java's built-in features. The course will include generics, input and output streams, serialization, exception handling, multithreading, client-server applications and graphical user interfaces.

CIS 242   Introduction to System Design and Analysis* (3 Hours)
Prerequisites : CS 200 or CS 201 or CS 205.
Students will study the basic philosophy and techniques of developing and using business information systems. The emphasis will be on the human involvement necessary in systems analysis and design. The course will address the use of specific technical approaches available in the systems development life cycle.

CIS 260   Database Management* (4 Hours)
Prerequisites : CS 200 or CS 201 or CS 205.
At the completion of this course, students should be able to understand the characteristics and objectives of database management systems (DBMS). Topics include database environments, data modeling using the entity-relational model, normalization, logical and physical design, the Structured Query Language (SQL), data quality, database administration and related topics. Students will use a relational DBMS , employ associated tools and write programs to manipulate tables.

CIS 264   Application Development and Programming* (4 Hours)
Prerequisites : CIS 242 and CIS 260 and (CS 235 or CIS 240 or CS 236 or CS 255).
This course helps students develop a significant software project while combining previously learned software development skills with contemporary technologies. Students should work within a team to communicate, plan and implement a software application. Proper interviewing and job searching techniques are also explored.

CIS 270   Information Systems Internship* (3 Hours)
Prerequisites : Department approval and (CS 235 or CS 236 or CS 250 or CS 255 or CIS 240).
Students will work in an approved training situation under instructional supervision. The internship is designed to give students the opportunity to use skills learned in computer science and information systems courses. Fifteen hours on-the-job training per week will be the usual workload for the student. To be eligible, students must have recently completed a course in the department.

CIS 275   Web-Enabled Database Programming* (4 Hours)
Prerequisites : CS 200 or CS 201 or CS 205.
At the completion of this course, the student should be able to create dynamic Web pages containing information accessed from a database. The student will complete projects using Web technologies that interface with a database. The course will include graphics, graphical user interfaces, exception handling and event-driven programming.

CIS 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

CIS 292   Special Topics:* (1-4 Hour)
Prerequisites : Department approval.
This course periodically presents specialized topics in computer information systems that are not available in the regularly offered curriculum. Special Topics may be repeated for credit, but only on different topics. Total contact hours vary with topic. This is a repeatable course and may be taken more than once for credit.

Computer Support Specialist (CSS)

Courses

CSS 105   Introduction to Personal Computers: Windows (1 Hour)
This course is designed to give the student an overview of essential personal computer concepts and skills. Current topics include computer terminology, hardware components, system software, application software, file management, email and the Internet. Hands-on, real-world projects will be performed to reinforce the concepts taught. 1 hr. lecture /wk.

CSS 106   Introduction to Personal Computers: Macintosh (1 Hour)
This course is designed to give the student an overview of essential Macintosh (Mac) computer concepts and skills. Current topics include computer terminology, hardware components, operating system software, application software, file management, email and the Internet. Hands-on, real-world projects will be performed to reinforce the concepts taught. 1 hr. lecture/wk.

CSS 108   Word Processing I: MS Word* (1 Hour)
Prerequisites or corequisites: CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
Upon successful completion of this course, students will demonstrate proficiency with word processing software on a personal computer. Foundational word processing competencies, including creating, saving and editing documents; inserting and resizing graphic images; creating and applying styles and themes; creating headers and footers; and setting up tables will be covered. Students will also create multipage reports and incorporate desktop publishing concepts and features.

CSS 109   Google Apps* (1 Hour)
Prerequisites or corequisites: CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
This course provides an introduction to the concepts and real-world applications of Google Apps services and applications. Students will explore the most popular Google Apps on the market today, including Google Email, Google Contacts, Google Calendar, Google Docs, Google Drive and Google Sites. Hands-on, practical projects will be performed to reinforce the concepts taught.

CSS 110   Spreadsheets I: MS Excel* (1 Hour)
Prerequisites or corequisites: CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
Upon successful completion of this course, students will demonstrate proficiency with spreadsheet software on the personal computer. Business decision-making worksheet models will be created and modified by entering labels, functions and formulas. Various formatting techniques will be applied to enhance the appearance of printed worksheets. Students will also learn to display the worksheet data graphically with the charting capabilities of the software.

CSS 111   Spreadsheets II: MS Excel* (1 Hour)
Prerequisites or corequisites: (CSS 110 or CPCA 110) or (CSS 128 or CPCA 128).
This course is a continuation of CSS 110, and will provide the student with intermediate level of spreadsheet concepts. Using typical business scenarios, the student will perform manual and automated "what-if" analyses, manage data in worksheets with tables and database functions and use multiple worksheets to build consolidated statements.

CSS 113   Spreadsheets I, II & III: MS Excel* (3 Hours)
Prerequisites : CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
Upon successful completion of this course, students will demonstrate advanced proficiency with spreadsheet software on the personal computer. Business decision-making worksheet models will be created and modified by entering labels, functions and formulas. Additionally, students will perform manual and automated what-if analyses, manage data in worksheets with tables and database functions, create and edit charts and use multiple worksheets to build consolidated statements. Macros, advanced formulas and data intelligence tools will be covered.

CSS 114   Databases I: MS Access* (1 Hour)
Prerequisites : CIS 124 or CS 134 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
This course provides an introduction to the concepts and real-world applications of microcomputer relational database software. Foundational database competencies, including building tables, defining fields, relating tables, entering and editing data, filtering and sorting will be covered. Students will query the database to select, calculate and summarize information. Students will build and customize forms and reports.

CSS 115   Databases II: MS Access* (2 Hours)
Prerequisites or corequisites: CSS 114 or CPCA 114.
Upon completion of this course, the student should be able to design and define a relational database, create custom forms and reports for data entry, and build supporting queries. The student should be able to transfer data into and out of the database from various file formats, and manipulate data with introductory macro and programming skills.

CSS 118   Groupware: Outlook* (1 Hour)
Prerequisites or corequisites: CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
This course provides an introduction to the concepts and applications of today's robust email systems. Students will use the application to compose, send, open and reply to email; organize email; manage calendars; use contact management features; and work with tasks.

CSS 120   Computer User Support Skills* (3 Hours)
Prerequisites or corequisites: CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
Upon successful completion of this course, students should understand key information and skills for user support professionals, including troubleshooting and problem solving, successful verbal and written communication with users, determining a client's specific needs and training end users.

CSS 121   Introduction to Project Management* (1 Hour)
Prerequisites : CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
Upon completion of this course, the student should be able to effectively create and manage projects using project management software. Students will learn about project management goals and terminology, create a project plan and use project management methodologies and tools.

CSS 123   E-Presentation: MS PowerPoint* (1 Hour)
Prerequisites or corequisites: CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
Upon successful completion of this course, students will demonstrate proficiency with presentation software on a personal computer. Foundational presentation competencies, including planning, creating and editing a presentation; inserting graphics and objects; creating speaker notes; creating and formatting tables; applying transitions and animations; formatting custom shapes; and creating a self-running presentation, will be covered.

CSS 125   Word Processing II: MS Word* (1 Hour)
Prerequisites or corequisites: (CSS 108 or CPCA 108) or (CSS 128 or CPCA 128).
This is a continuation of CSS 108. After completing this course students should be able to use advanced concepts and applications of word processing software. The applications include working with templates, creating and modifying styles, customizing themes, generating a table of contents, using mail merge, linking and embedding objects, creating and editing macros, customizing Word and automating parts of a document.

CSS 128   PC Applications: MS Office (3 Hours) ⏏
Upon successful completion of this course, students will demonstrate an in-depth proficiency with word processing, spreadsheet, database and presentation graphics applications. Students will use a current operating system to manage windows and applications, and create and organize files and folders. Students will conduct research on the Internet and apply information in secure documents using ethical and social standards of conduct. Hands-on, practical projects will be performed to reinforce the concepts taught.

CSS 138   Operating Systems: Windows* (1 Hour)
Prerequisites or corequisites: CIS 124 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
This course is designed to give the student an overview of the Windows operating system. Topics include personalizing the work environment, advanced personalization and customization techniques, advanced search techniques, managing digital media, and managing networks, security and utilities. Hands-on, real-world projects will be performed to reinforce the concepts taught.

CSS 140   Digital Devices and Online Technologies* (3 Hours)
Prerequisites or corequisites: (CSS 105 or CPCA 105) or an appropriate score on a waiver test.
Upon successful completion of this course, students will be knowledgeable about a wide range of current issues related to the usage and management of digital devices, applications, data and technologies.

CSS 228   PC Applications II: MS Office* (3 Hours)
Prerequisites : CSS 128 or CPCA 128 or (CSS 108 or CPCA 108 and CSS 110 or CPCA 110 and CSS 114 or CPCA 114).
This course builds on the skills covered in CSS 128. After completing this course students should be able to use advanced concepts and applications of word processing, spreadsheet and database software. Hands-on practical projects will be performed to reinforce the concepts taught.

CSS 290   Computer Support Specialist Internship* (2 Hours)
Prerequisites : Department approval.
Students will work in an approved training situation under instructional supervision. The internship is designed to give the student the opportunity to use the knowledge and skills acquired in the Computer Support Specialist program. An average of 40-60 onsite hours will be required along with class assignments for a total of 90 hrs./semester.

CSS 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

CSS 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
This course periodically presents specialized topics in Personal Computer Applications that are not available in the regularly offered curriculum. Special Topics may be repeated for credit, but only on different topics. This is a repeatable course and may be taken more than once for credit.

Computer Science (CS)

Courses

CS 134   Programming Fundamentals (4 Hours)
In this introductory course, students will create computer applications that perform tasks and solve problems. Students will utilize fundamental logic, problem-solving techniques, and key programming concepts to design, develop and test modular applications using a professional high-level programming language. 3 hrs. lecture, 2 hrs. open lab /wk.

CS 200   Concepts of Programming Algorithms Using C++* (4 Hours)
Prerequisites : (CS 134 with a grade of "C" or higher or CIS 142 with a grade of "C" or higher or department waiver test and MATH 131 or higher) or MATH 241 or department approval.
This course emphasizes problem solving using a high-level programming language and the software development process. Algorithm design and development, programming style, documentation, testing and debugging will be presented. Standard algorithms and data structures will be introduced. Data abstraction and an introduction to object-oriented programming will be studied and used to implement algorithms. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CS 201   Concepts of Programming Algorithms using C#* (4 Hours)
Prerequisites : (CS 134 with a grade of "C" or higher or CIS 142 with a grade of "C" or higher or department waiver test and MATH 131 or higher) or MATH 241 or department approval.
This course emphasizes problem-solving using a high-level programming language and the software development process. Algorithm design and development, programming style, documentation, testing and debugging will be presented. Standard algorithms and data structures will be introduced. Data abstraction and an introduction to object-oriented programming will be studied and used to implement algorithms.

CS 202   Concepts of Programming Algorithms using Python* (4 Hours)
Prerequisites : (CS 134 with a grade of "C" or higher or CIS 142 with a grade of "C" or higher or department waiver test and MATH 131 or higher) or MATH 241 or department approval.
This course emphasizes problem-solving using a high-level programming language and the software development process. Algorithm design and development, classes and inheritance, programming style, documentation, testing and debugging will be presented. Standard algorithms and data structures will be introduced. Data abstraction and object-oriented programming will be studied and used to implement algorithms. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CS 205   Concepts of Programming Algorithms using Java* (4 Hours)
Prerequisites : (CS 134 with a grade of "C" or higher or CIS 142 with a grade of "C" or higher or department waiver test and MATH 131 or higher) or MATH 241 or department approval.
This course emphasizes problem-solving using a high-level programming language and the object-oriented software development process. Algorithm design and development, classes and inheritance, programming style, documentation, testing and debugging will be presented. Standard algorithms and data structures will be introduced. Data abstraction and object-oriented programming will be studied and used to implement algorithms. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CS 210   Discrete Structures I* (3 Hours)
Prerequisites : MATH 171 with a grade of "B" or higher or a higher level MATH course with a grade of "C" or higher.
This course focuses on the study of topics in Discrete Structures aimed at applications in Computer Science. Students will study logic, methods of proof including induction, set theory, relations, functions and Boolean algebra. They will develop general problem-solving skills.

CS 211   Discrete Structures II* (3 Hours)
Prerequisites : CS 210 with a grade of "C" or higher.
This second course in Discrete Structures is aimed at solving problems in Computer Science. Students will study computation, induction, recursion, integers, counting, graphs and trees. They will develop general problem-solving and programming skills.

CS 235   Object-Oriented Programming Using C++* (4 Hours)
Prerequisites : CS 200 or CS 201 or CS 205.
This course emphasizes programming methodology and problem solving using the object-oriented paradigm. Students will develop software applications using the object-oriented concepts of data abstraction, encapsulation, inheritance, and polymorphism. Students will apply the C++ techniques of dynamic memory, pointers, built-in classes, function and operator overloading, exception handling, recursion and templates. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CS 236   Object-Oriented Programming Using C#* (4 Hours)
Prerequisites : CS 201.
This course prepares students to develop object-oriented, C# applications that solve a variety of problems. Students will apply object-oriented concepts including inheritance, function overloading and polymorphism, and will utilize available classes as well as design their own. Event-driven programming, Windows applications, web development, common data structures, database access and frameworks will be presented. 3 hrs. lecture, 2 hrs. open lab/wk.

CS 250   Basic Data Structures using C++* (4 Hours)
Prerequisites : CS 235 or (CS 200 and CS 210 or CS 236 or CS 255 or CIS 240 or MATH 242).
This course continues developing problem solving techniques by focusing on object-oriented styles using C++ abstract data types. Basic data structures such as queues, stacks, trees, dictionaries, their associated operations, and their array and pointer implementations will be studied. Topics also include recursion, templates, fundamental algorithm analysis, searching, sorting, hashing, object-oriented concepts and large program organization. Students will write programs using the concepts covered in the lecture. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CS 252   Basic Data Structures Using Python* (4 Hours)
Prerequisites : CS 202.
This course continues developing advanced problem-solving techniques through object-oriented programming using Python. Basic data structures including stacks, queues, trees, and dictionaries will be studied and implemented. Additional topics include recursion, fundamental algorithm analysis, searching, sorting, and large program organization. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CS 255   Basic Data Structures Using Java* (4 Hours)
Prerequisites : CS 205 or CS 236 or CIS 240.
This course will cover advanced programming topics using Java. Files, recursion, data structures and large program organization will be implemented in projects using object-oriented methodology. Students will write programs using queues, stacks, lists and other concepts covered in the lecture. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

Construction Management (CMGT)

Courses

CMGT 100   Industrial Safety/OSHA-30 (3 Hours)
Upon successful completion of this course, participants will be able to identify, define and explain general industry hazards and acceptable corrective measures in accordance with the current 29th Code of Federal Regulations, Part 1910 (29 CFR 1910), Occupational Safety & Health Administration (OSHA) General Industry Regulations. Participants will also be able to describe various standards requirements that protect workers from common hazards associated with general industry workplaces. The national OSHA course-completion card is possible to be earned simultaneously with successful completion of this college course, at the discretion of the OSHA Outreach Trainer and successful fulfillment of OSHA's requirements.

CMGT 105   Construction Methods (3 Hours)
This course introduces the student to the terms, methods, procedures, sequences of operation, and types of construction and planning in construction.

CMGT 123   Building Codes* (3 Hours)
Prerequisites or corequisites: CET 125 or CMGT 125.
This course examines the organization, intent, and use of building codes in general and the International Building Code in particular. Students will cover the reasons codes exist and how they form an integral part of the design criteria for every building project. Additional topics include building types, fire protection, accessibility, roofs, foundations, and interiors/exteriors. As part of the class, students will describe how the various entities (governing authorities, design professionals, and contractors) work to administer and adhere to the building codes in construction. 3 hrs. lecture/wk.

CMGT 125   Construction Specifications* (2 Hours)
Prerequisites or corequisites: CET 105 or CMGT 105.
Upon successful completion of this course, the student will be able to describe the phases of a project, identify the bidding requirements, explain contractual relationships between parties, read a project manual, categorize the drawings, and explain contract modifications.

CMGT 129   Construction Management (3 Hours)
This course is intended for students interested in learning management principles for construction projects. Upon successful completion of this course, the student should be able to perform many processes associated with construction projects and complete forms typically used in project management. Topics include contract documents, scheduling, job costs and management issues. Project management software will be used to schedule and track project resources and progress. 2 hrs. lecture, 3 hrs. lab/wk.

CMGT 140   Construction Materials* (3 Hours)
Prerequisites : (CET 105 or CMGT 105) and MATH 130 (or higher).
Upon successful completion of this course, the student will be able to analyze materials commonly used in construction projects. Common properties of soil, concrete and asphalt will be studied for classification as engineering materials. Students will learn to perform typical materials tests in accordance with American Society for Testing and Materials (ASTM) guidelines.

CMGT 150   Construction Safety/OSHA-30 (3 Hours)
Upon the successful completion of this course, participants will be able to identify, define and explain construction industry hazards and acceptable corrective measures in accordance with the current 29th Code of Federal Regulations, Part 1926 (29 CFR 1926), Occupational Safety and Health Administration (OSHA) Construction Industry Regulations. Participants will also be able to describe various standards requirements that protect workers from common hazards associated with construction industry workplaces. The national OSHA course completion card is possible to be earned simultaneously with successful completion of this college course, at the discretion of the OSHA Outreach Trainer and successful fulfillment of OSHA's requirements.

CMGT 160   Green Building Fundamentals* (3 Hours)
Prerequisites or corequisites: CET 129 or CMGT 129.
This course introduces the student to sustainable design and green building practices used in the construction industry. The goal of the course is to improve the energy and environmental performance of buildings through a better understanding of practices used by industry professionals, as well as, to provide students preparing for the Leadership in Energy and Environmental Design (LEED) Professional Accreditation Exam. Course content will focus on sustainable practices as prescribed in the LEED Green Building Rating System. As part of the class, students will take a project through the LEED development and accreditation process.

CMGT 205   Advanced Construction Methods* (3 Hours)
Prerequisites : CET 105 or CMGT 105.
This course explores various building materials and how they are assembled during the construction process. Topics include wood, brick masonry, steel, concrete, and sustainable construction. Emphasis is placed on field construction techniques over building materials, which is presented in the introductory construction methods course.

CMGT 225   Construction Documents* (2 Hours)
Prerequisites : CET 125 or CMGT 125.
This course covers general documents used before, during, and after construction. Topics include document submittals, procurement, bidding, negotiating, and addenda. Modifications, claims, disputes, and payment are also addressed.

CMGT 227   Construction Cost Estimating* (3 Hours)
Prerequisites : (CET 125 or CMGT 125) and (MATH 130 or higher) or Department approval.
Prerequisites or corequisites: DRAFT 129.
This course adds to the student's knowledge of the construction process by covering the principles of construction estimating. Topics include estimating quantities of material using reference books, the Construction Specifications Institute (C.S.I.), MasterFormat, drawings, and specifications. The student needs a basic knowledge of spreadsheet software to be successful in this course.

CMGT 229   Advanced Construction Management* (3 Hours)
Prerequisites : (CET 129 or CMGT 129) and MATH 130 or higher.
Prerequisites or corequisites: CET 225 or CMGT 225.
This course builds on the introductory construction management course, CMGT 129. The emphasis is on using sustainability to safely and efficiently manage a commercial construction job. Topics include earthmoving and heavy equipment; concrete, masonry, and steel construction; and construction process management. By building with the environment in mind, we can produce buildings that use our limited resources efficiently and provide a healthier environment for the occupants.

CMGT 271   Construction Management Internship* (3 Hours)
Prerequisites : Department approval.
This course consists of supervised work experience in an approved training situation. It is designed to provide practical experience in the construction industry. An average of 15 hours per week for the semester of on-the-job training is required.

Criminal Justice (CJ)

Courses

CJ 121   Introduction to Criminal Justice System (3 Hours) ⟊▶
This course provides an overview of the three components of the American criminal justice system: police, courts and corrections. Interrelationships are stressed and problem areas discussed, particularly with respect to constitutional guarantees.

CJ 122   Police Operations* (3 Hours)
Prerequisites : CJ 121.
Students examine the role of police in society. Focus is placed on patrol, investigative activities and communications. Police operations in culturally diverse communities, legal constraints and ethical responsibilities are also discussed.

CJ 124   Criminal Justice and Corrections (3 Hours)
This course is an introductory study of the field of corrections. Correctional history and an examination of the American correctional system will be explored, including detention, incarceration and community corrections.

CJ 127   Criminology (3 Hours)
This class will identify the major criminology theories. Various explanations for criminal conduct will be explored and society's responses to crime will be examined.

CJ 130   Crime Prevention (3 Hours)
Topics of special interest include the techniques public service agencies use to operate crime-prevention programs and provide technically accurate, cost-effective security recommendations to the community.

CJ 133   Juvenile Behavior (3 Hours)
This course will examine law enforcement, courts and correctional agencies which deal with youthful offenders. In addition, an analysis of the theories of delinquency causation will be reviewed.

CJ 141   Criminal Law (3 Hours) ⟊▶
After taking this course, the student will be able to state the two basic elements necessary for any crime and the philosophy behind these two elements. After a detailed exploration of common law crimes and selected Kansas and Missouri statutes, the student will be able to classify common law crimes and state the difference between a felony and a misdemeanor. The student will understand the significance of the separation of powers doctrine and its application to criminal law and the constant interplay of the U.S. Constitution in criminal law.

CJ 143   Crime Analysis (3 Hours)
Students will learn crime profiling skills and specialized techniques of conducting research, analyzing data and producing crime analysis products. Students will survey existing computer applications and learn practical use and evaluation of these applications. Students will become familiar with the common written reports, charts and graphs used to describe crime analysis products. Students will survey the variety of customers served by crime analysts and the integral part crime analysis plays within the community.

CJ 145   Fundamentals Private Security (3 Hours)
In addition to understanding the general field of private security, the student will be able to differentiate between the security needs of industry, private business, government and selected educational institutions.

CJ 148   Physical and Sexual Violence within the Family (3 Hours)
A description and causal analysis of the different physical, psychological, and sexual abuse acts that may occur within the primary family unit will be provided in this course. The study will include possible causative factors; psychological and social effects on the various family members; psychological, social and legal implications; treatments; and the relationship between abuse and crime.

CJ 150   Criminal Procedure (3 Hours)
Criminal Procedure is an exploration of the structure of judicial processes; constitutional protections; and remedies for violations of constitutional rights. Students will learn, through discussion of important U.S. Supreme Court cases, how the Constitution is interpreted.

CJ 154   Fundamentals of Criminal Investigation (3 Hours)
This course is designed to give fundamental information that serves as an overview of the entire field as well as a solid foundation for specialized course work. The course focuses on investigation of property crimes, homicide investigation, crimes against children and sex-related offenses.

CJ 170   Drugs and Crime (3 Hours)
This course explores the relationship between drugs and crime. Students will analyze how drugs impact criminal activity at the local, state, federal, and international level. Local, state and federal laws regulating substance use will also be examined. Students will become familiar with the effects of drugs on the body. Interventions for individuals harmfully involved with drug use will be explored.

CJ 180   Corrections Assessment and Case Management* (3 Hours)
Prerequisites : CJ 124.
This course helps prepare students for positions in correctional agencies. Students will learn how corrections officials, parole officers, probation officers, facility based caseworkers and treatment providers perform their roles. Students will examine various types of offenders housed in correctional facilities.

CJ 201   Police Interrogation (3 Hours)
This class will assist students in developing the specific verbal and written communication skills used in the criminal justice field. Emphasis will be placed on the development of interviewing, interrogation, and report writing skills. Course content will focus on interviewing victims, witnesses and suspects and utilizing the information to write accurate and complete narrative reports.

CJ 215   Understanding Terrorism (3 Hours)
This course serves as a basic introduction to terrorism. Students will examine current and historical events to gain an understanding of terrorist organizations. The development of terrorism and its various forms, including tactics and ideologies as well as terrorism's impact on 21st century civilization, will be examined. The course also addresses the challenges facing criminal justice professionals in developing a coordinated response to terrorism.

CJ 221   Forensic Science and Crime Scene Investigation (3 Hours)
This course provides an overview of forensic science by focusing on the current technologies police rely on to apprehend criminal perpetrators and to link them through trace evidence to crime scenes. Emphasis is on crime scene investigation, physical evidence, organic and inorganic analysis, forensic toxicology and use of DNA in investigations.

CJ 223   International Criminal Justice Systems (3 Hours)
This course provides the study of criminal justice systems of countries other than the United States. Emphasis will be placed on a comparison of the three main aspects of the criminal justice system (police, courts, corrections) between specific countries around the world.

CJ 228   Criminal Justice Communications* (2 Hours)
Prerequisites : ENGL 121.
This class will assist students in developing the specific verbal and written communication skills used in the criminal justice field. Emphasis will be placed on the development of interviewing and report writing skills, focusing on the unique types of writing required gathering pertinent information and then recording that information by writing a variety of report narratives, represented by those prepared by individuals working in a profession within the criminal justice system.

CJ 230   Criminal Behavior* (3 Hours)
Prerequisites : PSYC 130.
This course explores the relationship between psychology, criminal behavior, and the criminal justice system. The foundation of the course will be a detailed examination of the various theories used to explain the causation of criminal behavior. Special emphasis will be placed on exploring how this understanding is applied in various settings within the criminal justice system; including police departments, the courts, and corrections.

CJ 235   Community Based Corrections (3 Hours)
This course is a comprehensive examination of community based corrections. The history of probation and parole is discussed as a foundation for the expanded coverage of correctional services offered in the community. Emphasis is given to modern correctional paradigms including diversion, intermediate sanctions, reentry and restorative justice. Practical field experience will broaden the students' understanding of this population and successful best practices of existing federal, state and county agencies will be examined.

CJ 255   Ethics and Criminal Justice (3 Hours)
This course explores the study of ethics, particularly as it applies to the field of criminal justice. The development of critical thinking and decision-making skills as they relate to the criminal justice system is also examined.

CJ 265   Advanced Police Training* (12 Hours)
Prerequisites : Department approval - open only to currently employed full-time police officers attending the Police Academy under sponsorship of a law enforcement agency.
This course consists of 60 clock hours of law enforcement training provided in addition to the 540 hours required by the Kansas Minimum Standards Training Act for recruits attending the Police Academy. While the required 600-hour curriculum is provided without fee, enrollment in advanced training is required of all those attending the academy. The curriculum covers law, criminal investigations, patrol procedures, defensive tactics, report writing and specialized training required by local law enforcement agencies.

CJ 275   Police Leadership* (3 Hours)
Prerequisites : CJ 121.
This class will assist students in developing an understanding through practical analysis of modern criminal justice administration theory as well as supervisory and management principles. Students will apply these principles to the unique operating problems of contemporary criminal justice organizations.

CJ 285   Criminal Justice Internship* (3 Hours)
Prerequisites : Fifteen credit hours in CJ courses and department approval or a 2.0 or higher grade point average and department approval.
Students augment their academic course work with an internship in an appropriate setting under instructional supervision. Internship projects are cooperative efforts between appropriate federal, state or local criminal justice agencies or not-for-profit organizations, and college staff and students. Internships give students the opportunity to participate in the real-world application of their academic studies. In addition, this synthesis of classroom study with practical experience provides students with skills and insights useful in selecting a career in the field of criminal justice. The student spends the equivalent of 12 hours per week for 14 weeks performing internship duties over the course of the semester or a total of 168 hours.

CJ 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

CJ 292   Special Topics: (1-3 Hour)
This course will be offered periodically and will focus on topical, specialized or advanced discipline-specific content related to the field of criminal justice usually not offered in the curriculum. Due to the scope of the discipline, this course may expand on current topics in the existing curriculum. Additionally, the topics may synthesize topics found in the current curriculum or explore topics not currently addressed in the Criminal Justice course offerings. Students may repeat Special Topics in Criminal Justice using a different topic as the subject of this course. This is a repeatable course and may be taken more than once for credit.

Data Science (DS)

Courses

DS 210   Introduction to Data Science (3 Hours)
In this course, students receive an introduction to the main tools and ideas in the data scientist's toolbox. The course gives an overview of the data, questions, techniques and tools that data analysts and data scientists work with. This course provides a conceptual introduction to the ideas behind turning data into actionable knowledge and tools that will be used to analyze this data. The course will cover collecting, cleaning and sharing data. Additionally, this course will cover how to communicate results through visualizations.

DS 220   Data Visualization (3 Hours)
This course introduces students to key design principles and techniques for interactively visualizing data. In addition to understanding how visual representations are used in the analysis and understanding of complex data, students will acquire data visualization skills, including designing effective visualizations and creating interactive visualizations using various tools.

DS 230   SQL for Data Analysis (3 Hours)
In this course, students will focus on how to apply the Structured Query Language (SQL) to data analysis tasks. Spreadsheets will be used for the visualization of data. Additionally, basic statistics will be covered. All data will be extracted from relational tables.

DS 240   Introduction to Statistical Programming (3 Hours)
Students in this course will use a statistical programming language to perform effective data analysis. Students will acquire programming skills including reading data, accessing statistical packages, writing functions, debugging, profiling code, organizing code and commenting code.

DS 260   Data Mining* (3 Hours)
Prerequisites : DS 210 and DS 240.
This course will provide students with an understanding of fundamental data mining methodologies and the ability to formulate and solve problems with these methodologies. Particular attention will be paid to the process of extracting data, analyzing it from many dimensions or perspectives, then producing a summary of the information in a useful form that identifies relationships within the data. The lectures will be complemented with hands-on experience with data mining software to allow development of execution skills.

DS 270   Introduction to Machine Learning* (3 Hours)
Prerequisites : DS 210 and DS 240.
This introductory course gives an overview of machine learning concepts, techniques and algorithms. Supervised and unsupervised machine learning will be covered. Machine learning is an integral part of data analytics, which deals with developing data-driven insights for better designs and decisions and gives computers the ability to learn without being explicitly programmed.

DS 280   Big Data Architecture (3 Hours)
This course covers emerging big data architectures that deal with large amounts of unstructured and semi-structured data. This course is designed for developers who need to create applications to analyze big data stored in distributed file systems. Topics include file architecture, data retrieval, performance and data analysis.

Dental Hygiene (DHYG)

Courses

DHYG 121   Clinical Dental Hygiene I: Pre-Clinic* (5 Hours)
Prerequisites : Admission to the Dental Hygiene Program.
Corequisites: DHYG 125 and DHYG 138 and DHYG 142.
This course will include information and techniques relating to the history, development, current status and future of the profession of dental hygiene. Students will be introduced to fundamental dental hygiene services, instrumentation, client assessment, preventive treatment, transmissible diseases, principles of infection control and prevention.

DHYG 125   Developmental Dentistry* (2 Hours)
Prerequisites : Admission to the Dental Hygiene Program.
Corequisites: DHYG 121 and DHYG 138 and DHYG 142.
This course will include a study of embryology, oral histology, developmental disturbances of the oral cavity and related structures, dental morphology and occlusion.

DHYG 135   Dental Materials* (2 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 121 with a grade of "C" or higher and DHYG 125 with a grade of "C" or higher and DHYG 138 with a grade of "C" or higher and DHYG 142 with a grade of "C" or higher and SOC 122.
Corequisites: DHYG 140 and DHYG 146 and DHYG 148.
This course is designed to provide students with a knowledge base of the science and physical properties of dental materials. Through laboratory exercises, students will have hands-on experience with dental materials used in dental hygiene and dentistry while applying their knowledge of dental material sciences.

DHYG 138   Head and Neck Anatomy* (2 Hours)
Prerequisites : Admission to the Dental Hygiene Program.
Corequisites: DHYG 121 and DHYG 125 and DHYG 142.
This course is designed to provide dental hygiene students with the basic anatomical foundations to support clinical course work. Topics to be covered include the skull, muscles, and vascular, glandular, lymphatic and nervous systems of the head and neck.

DHYG 140   Clinical Dental Hygiene II* (4 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 121 with a grade of "C" or higher and DHYG 125 with a grade of "C" or higher and DHYG 138 with a grade of "C" or higher and DHYG 142 with a grade of "C" or higher and SOC 122.
Corequisites: DHYG 135 and DHYG 146 and DHYG 148.
The course will include clinical application of dental hygiene techniques and instrumentation, oral health products, patient motivation and educational techniques, preventive strategies including use of an intraoral clinic camera, and an introduction to selected dental specialties. Students will be prepared for medical and dental emergencies that may be encountered in various practice settings. An introduction to the dental hygiene process of care (ADPIED) and working with special needs patient populations will be provided.

DHYG 142   Dental Radiography* (2 Hours)
Prerequisites : Admission to the Dental Hygiene Program.
Corequisites: DHYG 121 and DHYG 125 and DHYG 138.
This course prepares the dental hygiene student to expose, process and critique intra and extra oral radiographs for clinical practice. Emphasis is placed on technique and individual patient radiographic need using standardized As Low As Reasonably Achievable (ALARA) concepts. Students process, mount and evaluate radiographs for diagnostic value associated with patient care. Radiation production, biology and safety are required for students to make informed decisions and adjustments for optimum patient care.

DHYG 146   Periodontics* (3 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 121 with a grade of "C" or higher and DHYG 125 with a grade of "C" or higher and DHYG 138 with a grade of "C" or higher and DHYG 142 with a grade of "C" or higher and SOC 122.
Corequisites: DHYG 135 and DHYG 140 and DHYG 148.
Periodontics provides the dental hygiene student with an in-depth study of periodontal disease including the inflammatory process and its relationship to the pathogenesis of periodontal disease, identification of etiological factors, classification of periodontal disease following a complete periodontal assessment, recognition of gingival conditions, risk assessment, description of periodontal surgical procedures, recognition of periodontal emergencies, effectiveness of plaque control, and nonsurgical periodontal therapy.

DHYG 148   Dental Health Education* (2 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 121 with a grade of "C" or higher and DHYG 125 with a grade of "C" or higher and DHYG 138 with a grade of "C" or higher and DHYG 142 with a grade of "C" or higher and SOC 122.
Corequisites: DHYG 135 and DHYG 140 and DHYG 146.
This course is designed to provide students with a knowledge base in oral health promotion; disease prevention and control; the scientific research process; evaluation of research articles; goal and objective writing; cultural competency in oral health care; client assessment; evidence based decision making and product evaluation. Students will learn to apply this knowledge using educational methodology for individuals and groups, with special emphasis on behavior modification, compliance, communication and motivation.

DHYG 221   Clinical Dental Hygiene III* (6 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 135 with a "C" or higher and DHYG 140 with a "C" or higher and DHYG 146 with a grade of "C" or higher and DHYG 148 with a grade of "C" or higher and BIOL 235 with a grade of "C" or higher.
Corequisites: DHYG 225 and DHYG 232 and DHYG 234.
This course provides the dental hygiene student with continued development in the areas of patient management, preventive dental hygiene care and proficiency in clinical techniques through practical application. Selected skills, instrument design variations and current advances in dental hygiene services will also be introduced. The student will be able to develop and implement comprehensive dental hygiene treatment plans to meet the oral health needs and promote total body wellness of each patient. Experiences with patients with special needs in the clinic and the Oral Health on Wheels will enable the student to participate as a change agent and/or patient advocate in the community and adapt to meet the specific needs of these patients.

DHYG 225   General and Oral Pathology* (3 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 135 with a "C" or higher and DHYG 140 with a "C" or higher and DHYG 146 with a "C" or higher and DHYG 148 with a "C" or higher and BIOL 235 with a "C" or higher.
Corequisites: DHYG 221 and DHYG 232 and DHYG 234.
This course prepares the student dental hygienist to determine when to consult, treat or refer clients with various disease, infection or physiological conditions. Students learn to recognize the signs, causes and implications of common pathological conditions including inflammatory responses, immune disorders, genetic disorders, developmental disorders of tissues and cysts, oral tissue trauma and neoplasm of the oral cavity.

DHYG 232   Pharmacology for the Dental Hygienist* (2 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 135 with a "C" or higher and DHYG 140 with a "C" or higher and DHYG 146 with a grade of "C" or higher and DHYG 148 with a grade of "C" or higher and BIOL 235 with a grade of "C" or higher.
Corequisites: DHYG 221 and DHYG 225 and DHYG 234.
This course will introduce the basic principles of drug actions, emphasizing dental related therapeutics and drugs associated with common system disorders, information on the selection of professional products.

DHYG 234   Local Anesthesia for the Dental Hygienist* (1 Hour)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 135 with a "C" or higher and DHYG 140 with a "C" or higher and DHYG 146 with a grade of "C" or higher and DHYG 148 with a grade of "C" or higher and BIOL 235 with a grade of "C" or higher.
Corequisites: DHYG 221 and DHYG 225 and DHYG 232.
This course will concentrate on the principles of local anesthesia administration Upon completion of the course, didactic and clinical proficiency in local anesthesia will meet certification standards set by state dental boards.

DHYG 240   Dental Public Health* (2 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 221 with a grade of "C" or higher and DHYG 225 with a grade of "C" or higher and DHYG 232 with a grade of "C" or higher and DHYG 234 with a grade of "C" or higher.
Corequisites: DHYG 245 and DHYG 250.
Prerequisites or corequisites: COMS 120 or COMS 121 or COMS 125.
This course facilitates the student's development as a responsible leader in public health programs. Topics include public health structure and global public health access, statistical procedures for critiquing scientific literature and epidemiology. Course content includes emphasis on the role of the dental hygienist in community health promotion, assessment, planning, implementation and evaluation using evidence-based research.

DHYG 245   Nitrous Oxide Analgesia* (1 Hour)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 221 with a grade of "C" or higher and DHYG 225 with a grade of "C" or higher and DHYG 232 with a grade of "C" or higher and DHYG 234 with a grade of "C" of higher.
Corequisites: DHYG 240 and DHYG 250.
Prerequisites or corequisites: COMS 120 or COMS 121 or COMS 125.
This course will concentrate on the principles of administering and monitoring nitrous oxide analgesia. Upon completion of the course, didactic and clinical proficiency in nitrous oxide analgesia will meet certification standards set by state dental boards.

DHYG 250   Clinical Dental Hygiene IV* (6 Hours)
Prerequisites : Admission to the Dental Hygiene Program and DHYG 221 with a grade of "C" or higher and DHYG 225 with a grade of "C" or higher and DHYG 232 with a grade of "C" or higher and DHYG 234 with a grade of "C" or higher.
Corequisites: DHYG 240 and DHYG 245.
Prerequisites or corequisites: COMS 120 or COMS 121 or COMS 125.
This course will offer continued development of competencies in clinical techniques and current procedural practices of the dental hygienist with emphasis on self-evaluation. Topics will include ethics, jurisprudence, office management, current dental hygiene issues and preparation for board exams. Experiences with special patients at affiliate sites enable participation as a change agent and/or patient advocate in the community. A continued emphasis in the development and implementation of dental hygiene treatment plans to meet oral health needs and promote total body wellness for consumers. The following are required: CPR recertification, service learning and case study projects. The clinical experience is designed to continue the dental hygiene student's development in total patient care with Program Affiliate Sites. The classroom portion is designed as a seminar atmosphere for the introduction of legal and ethical concepts, practice of management concepts, current practices of dental hygiene and discussion of the roles of a dental hygienist.

DHYG 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Dietary Managers (DIET)

Courses

DIET 100   Foodservice Management for Dietary Managers (3 Hours)
This course provides a comparison of the different types of meal service, along with ways of satisfying client preferences. Students will understand and apply the various components of foodservice including forecasting, purchasing, receiving and storing food, and equipment recommendations. Budgeting, marketing, safety and food quality of the industry will also be covered.

DIET 151   Nutrition and Meal Planning (3 Hours)
This course covers the food groups and their function and nutritional values as applied to meal planning. Assessment of personal dietary intake will also be explored. In addition to the current trends in nutrition this course covers energy balance, sustainability and nutrition in the life span. This is a required course for the food and beverage management, chef apprenticeship and dietary manager programs.

DIET 200   Medical Nutrition Therapy* (3 Hours)
Prerequisites : DIET 151.
This course provides an understanding of how medical nutrition therapy impacts disease and the role of the dietary manager in utilizing this therapy in a clinical setting.

DIET 251   Nutrition Applications* (3 Hours)
Prerequisites or corequisites: DIET 200.
This course explores the application of nutrition in four areas of emphasis: clinical, community, research and food science. This course requires a minimum of 25 hours of coordinated field experience. Some field experience facilities may have other requirements.

DIET 275   Dietary Managers Practicum* (2 Hours)
Prerequisites : Department approval.
This course enables the student to apply classroom knowledge to an actual work situation. The practicum will be developed cooperatively with area employers, college staff and each student. It will include a minimum of 100 hours per semester in a foodservice organization that would hire a dietary manager. This is a capstone class. Students will be required to have a background check and documentation of current TB skin test - negative results.

Drafting/CAD/AutoCAD (DRAF)

Courses

DRAF 120   Introduction to Drafting (2 Hours)
This course should be taken by students without prior drafting experience. Upon successful completion of this course, the student should be able to identify and apply the essential, basic skills necessary to proceed through the drafting program, including, measuring, geometric construction, sketching, isometrics, orthographic views, section views, dimensioning and auxiliary views. Drafting classes that have additional lab have either the time and room listed or TBA (to be announced) with the room number listed. 1hr. lecture, 2hrs. lab/wk.

DRAF 123   Interpreting Machine Drawings* (2 Hours)
Prerequisites or corequisites: DRAF 120 or department approval.
This course is a required course in the computer-aided drafting and design technology program. Upon successful completion of this course, students should be able to interpret graphics used to fabricate, assemble, maintain and operate the equipment and products of industry. General detail and assembly prints will be evaluated for title block information, general notes, dimensioning, tolerance specification and symbology. Specialized drawings will include cams, gears, numerical control, plastics, sheet metal and instrumentation.

DRAF 129   Interpreting Architectural Drawings (2 Hours)
This beginning course will explain the fundamentals of interpreting (reading) architectural drawings. Upon successful completion of this course, students should be able to understand plan and elevation views, sections, details, schedules, specifications, symbols and abbreviations found on most residential and commercial construction drawings. 2 hrs. lecture/wk.

DRAF 130   Introduction to CAD Concepts - AutoCAD* (3 Hours)
Prerequisites or corequisites: DRAF 120 or department approval.
This course provides a basic knowledge of AutoCAD. Students will learn to use CAD equipment, including input/output devices and microcomputers as drafting tools. Emphasis will be on a basic understanding of CAD terms and concepts as they are applied in the industry. Students will be provided an overview of many of the key features of a major microcomputer CAD package with hands-on experience at a workstation. Basic instruction will be provided on drawing setup, drawing commands, editing commands and screen control. The important concepts of layering, standard symbols and dimensioning will be introduced. 2 hrs. lecture, 3 hrs. open lab/wk. Drafting classes that have an additional lab have either the time and room listed or TBA (to be announced) with the room number listed.

DRAF 132   Exploring AutoCAD (3 Hours)
This course is for non-drafting students/users who wish to casually use Autodesk's AutoCAD (computer aided drafting) software. It provides a basic knowledge of how to manipulate AutoCAD commands on a Windows or Mac platform to create drawings. Covered topics include creating and setting up a drawing, using blocks and wblocks, editing a drawing, saving completed drawings, developing template drawings, printing from paper space, dimensioning, layering, drawing defaults and hatching. 2 hrs. lecture, 3 hrs. open lab/wk.

DRAF 135   Graphic Analysis* (3 Hours)
Prerequisites : DRAF 130 or department approval.
This course expands on introductory knowledge in drafting and CAD. Upon successful completion of this course, the student will solve descriptive geometry problems, and locate intersections of geometric shapes. Most assignments in this course will be completed using AutoCAD software.

DRAF 142   Exploring Autodesk Fusion 360 (2 Hours)
This course will cover the commands and techniques required to create solid, surface, and form models; automated and generative design (AI) models; mesh editing; and animated assemblies. Students will make digital models which can be used for additive and subtractive manufacturing, such as 3D printing and CNC cutting, and generate scaled, 2D drawings from the model for fabrication. The course is intended for students interested in learning the capabilities of Fusion 360 and are interested in enhancing their knowledge of 3D modeling programs.

DRAF 143   Introduction to BIM Building Information Modeling* (2 Hours)
Prerequisites : DRAF 129 or Department approval.
This course introduces students to the concepts and usage of BIM: Building Information Modeling in the building construction field. Students will use Building Information Modeling software to interact with a virtual building model. Upon successful completion of this course, students will manipulate the software interface to model, interpret, access data, and view the building model. The student will use the software to model and access plan views, elevations, sections, 3-D views, structural elements, schedules and support files found in a 3-D building model. The REVIT software package is currently used.

DRAF 145   Introduction to Parametric Design: Inventor* (2 Hours)
Prerequisites : DRAF 123 or Department approval.
This course is an introduction to parametric design. The course will cover parametric modeling fundamentals, solid geometry concepts, parametric constraints fundamentals and geometric construction tools. Basic software commands will also be covered to give the student ability to demonstrate parametric modeling knowledge.

DRAF 152   3D Modeling with SketchUp (2 Hours)
The course will teach how to model (draft in 3D) with SketchUp, a popular software program. Students will learn how to sketch their ideas for prototypes, floor plans and buildings, embellish a drawing for presentation purposes, make animations of their model, export the model into different file formats and 3D print the model. 2 hrs. lecture/wk.

DRAF 162   3D Printing (2 Hours)
This course will teach how to digitally model prototype ideas that can be 3D printed. Multiple solid, reality capture, analysis and slicing programs are taught. Students will learn about the 3D printing process, how to make a digital model 3D-printable, different types of 3D printers and filaments. Students will also learn how to generate a file from the digital model for a Computer Numeric Control (CNC) cutting machine. 2 hrs. lecture/wk.

DRAF 211   Engineering Design Problems* (3 Hours)
Prerequisites : MATH 130 or MATH 171 or Department approval.
Prerequisites or corequisites: (CPCA 110 or CSS 110) and (CPCA 111 or CSS 111).
This course introduces the student to a variety of engineering design concepts. Topics include structural loading conditions, steel member selection, pressurized fluid flow, open channel flow and stormwater/hydrology. Students apply these concepts to solve practical problems found in industry. This course is typically offered in the spring semester.

DRAF 222   Mechanical Design and Drafting* (3 Hours)
Prerequisites : DRAF 123 and DRAF 135 and DRAF 230 and DRAF 245.
Prerequisites or corequisites: DRAF 211.
Students successfully completing this course should be able to draw details and assembly views of mechanical parts. The types of parts discussed in this class include castings, sheet metal pieces, jigs and fixtures, and gauges. Important concepts include dimensioning, form and position tolerancing, coordinate tolerancing, and calculations related to material allowances and manufacturing. Students will use the Machinery's Handbook and other technical publications to research and design projects. Project assignments will be completed using computer-aided drafting (CAD) software.

DRAF 225   Civil Drafting* (3 Hours)
Prerequisites : DRAF 230 or Department approval.
Prerequisites or corequisites: DRAF 211 and DRAF 244.
Upon successful completion of this course, the student should be able to apply drafting techniques used in civil engineering offices. Topics covered include the surveying process, property legal descriptions, topographic maps, plan and profile drawings, roadway cross sections and earthwork calculations. The student will use CAD software in drawing projects. This course is typically taught in the fall semester. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 230   Intermediate CAD: AutoCAD* (3 Hours)
Prerequisites or corequisites: DRAF 130 or department approval.
This course provides an increased knowledge of AutoCAD as it is used in today's industries. Students will build on their CAD experience by learning new commands and techniques that increase system productivity. Special emphasis will be on developing construction techniques and command usage to increase CAD proficiency. Additional study of standard symbols, layers and editing functions will occur. Concepts covered will include dimensioning variables and styles, attributes and external referencing, as well as paper space and model space, as used in multiple-view drawings. 2 hrs. lecture, 3 hrs. open lab/wk.

DRAF 238   Architectural Design and Drafting* (3 Hours)
Prerequisites : DRAF 129 and DRAF 135 and DRAF 230 and DRAF 243.
Prerequisites or corequisites: DRAF 211.
This course is an introduction to the production of architectural drawings for residential and commercial construction. Upon successful completion of this course, the student will be able to design and draw floor plans, sections, elevations, dimensions and schedules. Industry standard code and reference books, such as the International Residential Code and Architectural Graphic Standards books, will be used in the research and design process. Projects will be completed using computer-aided drafting (CAD) software.

DRAF 243   Advanced BIM: Revit* (2 Hours)
Prerequisites or corequisites: DRAF 143 or department approval.
This course introduces the student to advanced Building Information Modeling (BIM) concepts used by many architectural and engineering design firms. Topics include advanced modeling and documentation tools, project setup and the design process. Students will model commercial buildings and produce architectural drawings. Emphasis will be placed on the hands-on application of the current software to industrial projects.

DRAF 244   Civil 3D* (2 Hours)
Prerequisites or corequisites: DRAF 225 or department approval.
This course introduces the student to the Civil 3D software used by many land planning, civil engineering and surveying firms. Topics include software commands, project setup and the design process. Survey points, surfaces, topography, road layout and soil volumes are covered in this course. Emphasis will be placed on the hands-on application of the software to industrial projects.

DRAF 245   Advanced Parametric Design: Inventor* (2 Hours)
Prerequisites or corequisites: DRAF 145 or department approval.
This course uses the Inventor Parametric design software used by many industrial and mechanical design firms. Topics include software commands, project setup and the design process. Emphasis will be placed on the hands-on application of the software to industrial projects.

DRAF 246   MicroStation for AutoCAD users* (2 Hours)
Prerequisites : DRAF 230 or department approval.
This course introduces the student to the MicroStation software interface and command structure. The course is intended for students who are familiar with the use of the AutoCAD software and need a transition to the use of MicroStation. Topics include basic operating fundamentals, AccuDraw, working with elements, references and printing.

DRAF 247   Revit Systems MEP (Mechanical, Electrical, Plumbing)* (2 Hours)
Prerequisites or corequisites: DRAF 243 or Department approval.
This course introduces the student to the concepts and principles of basic mechanical, (HVAC), electrical and plumbing/piping systems used in 3D parametric models. Students will utilize commercial models to create, document, and print MEP systems. Emphasis will be placed on the application of MEP concepts to create construction documents.

DRAF 252   Structural Design and Drafting* (3 Hours)
Prerequisites : DRAF 129 and DRAF 135 and DRAF 230 and DRAF 243 or Department approval.
Prerequisites or corequisites: DRAF 211.
Upon successful completion of this course, the student should be able to produce structural drawings and details of steel, concrete and wood structures for manufacturing, construction, engineering and architectural firms. The student will use industry standard references and perform design calculations. Project work will be done using CAD.

DRAF 264   CAD:Interior Design* (3 Hours)
Prerequisites : (DRAF 164 with a grade of "C" or higher or ITMD 164 with a grade of "C" or higher) and (ITMD 121 with a grade of "C" or higher) or Department approval.
This course is an introduction to the use of computer-aided drafting (CAD) as used in the interior design field. Upon successful completion of this course, the student should be able to draw floor plans and elevations of interiors using a computer-aided drafting system. AutoCAD LT software will be used. 2 hrs. lecture, 3 hrs. open lab/wk.

DRAF 271   Drafting Internship I* (3 Hours)
Prerequisites : Department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students the opportunity to develop job- and career-related skills while in a work setting. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 15 hrs. min./ wk.

DRAF 272   Drafting Internship II* (3 Hours)
Prerequisites : DRAF 271 and department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students the opportunity to develop job- and career-related skills while in a work setting. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals.15 hrs. min./ wk.

DRAF 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Economics (ECON)

Courses

ECON 132   Survey of Economics (3 Hours)
Upon successful completion of this course, the student should be able to explain basic macroeconomic and microeconomic theory, fiscal and monetary policies, the role and significance of international economics and government trade and regulatory policies. In addition, the student should be able to describe the characteristics and consequences of the differing business units in the economy, as well as the functioning of the labor market and how national income is distributed. The course is primarily for students who desire a one-semester, nontechnical overview of the basic components of macroeconomic and microeconomic theory and the functioning of the United States economy.

ECON 230   Principles of Macroeconomics (3 Hours)
Upon successful completion of this course, the student should be able to use economic terminology and principles to explain and discuss basic macroeconomic concepts, including supply of and demand for products, national income determination, money and banking, and monetary and fiscal policy. The student enrolling in this course should have successfully completed one year of high school algebra or the equivalent.

ECON 231   Principles of Microeconomics (3 Hours)
Upon successful completion of this course, the student should be able to use economic terminology and principles to explain and discuss basic microeconomic concepts, including an extended analysis of product supply and demand, theories of the firm, and product and resource market structures. Students enrolling in this course should have successfully completed one year of high school algebra or the equivalent.

Education and Early Childhood (EDUC)

Courses

EDUC 121   Introduction to Teaching* (3 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
Teaching concepts and practices as they apply to today's elementary and secondary schools will be introduced. Topics will include the roles and responsibilities of the teacher, various modes of instruction, specialized areas in teaching, and professional requirements and concerns. Twenty hours of observation in a school setting is required.

EDUC 130   Foundations of Early Childhood Education* (3 Hours) ⌐▷
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This introductory survey course is designed to provide students with current information on topics relevant to employment in early childhood programs. The course explores the historical and philosophical roots of early childhood education, general principles in child development, the teacher's role, values and ethics in early childhood education, curriculum design, and classroom management. Twenty hours of observation in a group childcare setting are required.

EDUC 131   Early Childhood Curriculum I* (3 Hours)
Prerequisites or corequisites: EDUC 130 with a grade of "C" or higher.
This methods course is designed for students who are, or will be, working in an early childhood education setting and parents or others who desire to develop an intellectually challenging environment for young children. The focus of the course is curriculum areas that deal with language and physical development.

EDUC 210   Creative Experiences for Young Children* (3 Hours)
Prerequisites : EDUC 130 with a grade of "C" or higher and PSYC 215.
This course is a study of constructing and maintaining an environment for young children that fosters aesthetic sensitivity and creativity. The course includes the young child's developmental stages in art, music, movement, creative movement and creative drama. Methods and materials for this course cover developmentally appropriate creative experiences; inclusive, anti-bias curriculum; integration of creative experiences throughout the curriculum; use of technology; and helping families understand the creative experience.

EDUC 220   Survey of the Exceptional Child* (3 Hours) ⌐▷
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This course is an overview of the field of special education geared to those who are preparing to work with children and youths with special needs. The course provides fundamental information on the identification and exceptionality, laws and legal cases affecting the delivery of services to individuals with exceptionalities, and the principles of effective educational approaches for each exceptionality. Categories of exceptionality presented include learning disabilities, behavior disorders, gifted and talented, communication disorders, autism, traumatic brain injury, physical disabilities, sensory impairments, other health impairments, and multiple and severe disabilities.

EDUC 221   Diversity, Equity and Inclusion for K-12 Educators (3 Hours)
This course explores multicultural education in K-12 contexts through a critical analysis of several key themes: power, privilege, and difference. Students will explore how the social construction of identity is shaped by race, ethnicity, gender, social class, sexuality, language, and ability within multiracial and linguistically diverse classrooms. This course identifies ways that teachers co-construct students' identities as well as their learning and classroom engagement.

EDUC 224   Technology in Education for K-12 Educators (3 Hours) ⌐▷
This course will introduce the research, pedagogy, and basic principles of educational technology. While introducing various types of technology that can be found in the school systems, the course will offer the instructional strategies paired with apps and programs to instruct, engage, promote collaboration, embed creation and assess students. The course will include foundations of how to teach digital citizenship and develop digital literacy skills. Students will be prepared to enter the school systems and identify how technology can enhance their classrooms.

EDUC 231   Early Childhood Curriculum II* (3 Hours)
Prerequisites or corequisites: EDUC 130 with a grade of "C" or higher.
This methods course is designed for students who are, or will be, working in an early childhood education setting and parents or others who desire to develop an intellectually challenging environment for young children. The focus of the course is on curriculum areas that deal with the physical and social aspects of the world. Included in this inquiry curriculum are mathematics, science, social studies and nutrition.

EDUC 234   Families in Society* (3 Hours)
Prerequisites or corequisites: PSYC 215.
This course is a study of effective relationships between families and the larger society. The course is designed for teachers and families who desire to provide an environment that reflects sensitivity to the unique needs of the individual child/adolescent and their families. Topics covered during the course are family dynamics, child and adolescent development, supporting positive relationships and behaviors, and effective communication and guidance strategies, as well as building and advocating for effective, collaborative relationships between teachers, families and communities.

EDUC 250   Child Health, Safety and Nutrition* (3 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This course is a study of the basic health, nutrition and safety management practices for young children. Information on establishing and maintaining a physically and psychologically safe and healthy learning environment appropriate for the needs of young children will be included. The interrelation of health, safety and nutrition is stressed, with emphasis on appraisal procedures, prevention and protection, services and educational experiences for young children and their families.

EDUC 260   Observing and Interacting with Young Children* (3 Hours)
Prerequisites : EDUC 130 with a grade of "C" or higher.
Prerequisites or corequisites: PSYC 215.
This course is a study of the role of observation to assess and monitor the development and learning of, and the appropriate techniques for interacting with, young children. Included will be the purposes and types of observation procedures, interpretation and use of findings, reporting techniques, and legal and ethical responsibilities. Expected age-related child behavior, fundamental principles of and theoretical approaches to child guidance, guidance techniques, working with families and issues of diversity are also presented. The laboratory will include demonstration of the subject matter.

EDUC 285   Student Teaching: Early Childhood Education* (3 Hours)
Prerequisites : EDUC 130 with a grade of "C" or higher and EDUC 250 with a grade of "C" or higher and EDUC 260 with a grade of "C" or higher.
This course will focus on the field experience of early childhood education students allowing them to apply their knowledge of teaching young children in a supervised setting. The student lab experience will occur in two different early childhood settings, with children of varying age groups. The course will also include a lecture/seminar component focused on practical application of student teaching experiences, as well as the development of a student teaching portfolio.

EDUC 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Electrical Technology (ELTE)

Courses

ELTE 110   AC/DC Circuits (4 Hours)
This is an introductory course that addresses the basics of Direct Current (DC) and Alternating Current (AC) circuits. The lab component to this course will expand on concepts taught in lecture by incorporating hands-on projects using common components found in the electrical industry. Students will gain experience in the process of reading and troubleshooting schematic drawings using electrical measuring equipment.

ELTE 115   Print Reading (2 Hours)
This course addresses the fundamentals of interpreting construction drawings. Students learn to read specification manuals and prints as applied to electrical installations in residential, commercial and industrial buildings.

ELTE 122   National Electrical Code I (4 Hours)
This is an introductory course on the use and interpretation of the current National Electrical Code (NEC), chapters 1-4. Students will learn the purpose and history of the code; develop a working knowledge of the code requirements for wiring, protection, materials and equipment; and be able to discern between wiring methods used in different occupancies.

ELTE 125   Residential Wiring* (4 Hours)
Prerequisites or corequisites: ELTE 110 .
This course covers residential wiring methods that include practical application and hands-on experience in implementing the code requirements. Installation rules and circuit designs for switches, receptacles, luminaires and appliances will also be discussed. The student will explore necessary skills to install electrical systems in a residential occupancy, meeting the minimum requirements as set forth in the current National Electrical Code (NEC).

ELTE 175   Low Voltage Wiring* (3 Hours)
Prerequisites or corequisites: ELTE 200.
This course covers the basic theory, installation standards and code requirements for various low voltage systems and their connecting devices. Discussion of closed circuit television, security, telephone, fire alarm, computer networking and wireless systems will be incorporated with hands-on experience installing and terminating conductors and cables in a lab environment.

ELTE 200   Commercial Wiring* (4 Hours)
Prerequisites : ELTE 125.
This course covers commercial wiring methods, including practical application and hands-on experience in implementing code requirements. Conduit hand-bending techniques, conductor sizing, and various wiring methods will also be discussed. The student will explore the necessary skills to install electrical systems in a commercial occupancy, meeting the minimum requirements as set forth in the current National Electrical Code (NEC).

ELTE 202   Electrical Estimating* (3 Hours)
Prerequisites : ELTE 200 .
This course covers the process of estimating the cost of an electrical design. Students will learn to develop an electrical estimate for a residential and commercial design. Emphasis will be placed on compiling a take-off list of materials from blueprints, determining material and labor costs, writing bid proposals, and creating change orders.

ELTE 211   Solar Electric Systems* (3 Hours)
Prerequisites : ELTE 175.
Solar Electric Systems presents the key components of photovoltaic (PV) conversion systems to produce electricity from sunlight. Solar module types and properties, balance of system components, stand-alone and utility interface, energy management and economics for a variety of PV applications are studied.

ELTE 220   Heavy Commercial Wiring* (3 Hours)
Prerequisites : ELTE 200.
This course covers heavy commercial wiring methods that include practical application and hands-on experience in implementing the code requirements. Conduit bending techniques, commercial raceway and conductor installations, commercial equipment installations, transformers, commercial panelboards and overcurrent protection applications will be discussed. The student will explore the necessary skills to install electrical systems in heavy commercial applications, meeting the minimum requirements as set forth in the current National Electrical Code (NEC).

ELTE 222   National Electrical Code II* (4 Hours)
Prerequisites : ELTE 122 .
This course is a continuation of the National Electrical Code I course on using and interpreting the current National Electrical Code (NEC), chapters 5-9. Students will develop a working knowledge of the code requirements for special occupancies, special equipment, special conditions and communication systems, and be able to use the NEC tables to size conduit raceways.

ELTE 223   Electrical Certification Review* (1 Hour)
Prerequisites or corequisites: ELTE 222.
This course covers the process and requirements for becoming a certified licensed electrician. License levels and permitting, state and local requirements, and best practices for being successful on a licensing examination will be covered.

ELTE 230   Industrial Wiring* (3 Hours)
Prerequisites : ELTE 200.
This is an introductory course that covers industrial wiring methods that include practical application and hands-on experience in implementing the code requirements. Transformer installation, power distribution and various wiring methods will also be discussed. The student will explore the necessary skills to install electrical systems in an industrial occupancy, meeting the minimum requirements as set forth in the current National Electrical Code (NEC).

ELTE 250   Industrial Motor Applications* (3 Hours)
Prerequisites : ELTE 200.
This course is an introduction to industrial motor application that includes practical application and hands-on experience in implementing code requirements. Motor installation and control, motor drives, motor control centers and various wiring methods will also be discussed. The student will explore necessary skills to install electrical motors and controls in an industrial occupancy, meeting the minimum requirements as set forth in the current National Electrical Code (NEC).

ELTE 270   Electrical Internship* (1-3 Hour)
Prerequisites : Department approval.
The internship will provide advanced students the opportunity to apply classroom knowledge with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 5-15 hrs. on-the-job training/wk. This is a repeatable course and may be taken more than once for credit.

Electronics (ELEC)

Courses

ELEC 120   Introduction to Electronics (3 Hours)
This is a beginning course in electronics technology that is appropriate for both electronic majors and other interested students. An overview of basic electronic theory, principles and components is presented. In addition, the laboratory exercises will emphasize the operation and use of the primary pieces of electronic test equipment and the fabrication of selected circuits.

ELEC 125   Digital Electronics I (4 Hours)
This is a beginning course in which students will study and practice the basic concepts of digital electronics. Topics will include digital number systems, logic gates, logic circuits, flip-flops, digital arithmetic, counters and registers.

ELEC 134   DC Circuits* (4 Hours)
Prerequisites or corequisites: ELEC 120 and MATH 130 (or higher) with a grade of "C" or higher.
This course covers resistive circuits having DC sources. Analysis topics include Ohm's law, Kirchoff's law, Watt's law, the superposition theorem, Thevenin's theorem and Norton's theorem. The current, voltage and resistance relationships in series, parallel and combination circuits will be studied.

ELEC 186   CompTIA A+ Core 1 (3 Hours)
This course aligns with the CompTIA A+ Core 1 certification exam. Students learn about personal computer (PC) hardware and peripheral components, network components and connections, network services, virtualization, cloud computing, mobile and print devices. A best-practices approach to troubleshooting is introduced. 3 credit hours.

ELEC 212   Fundamentals of Light and Lasers* (3 Hours)
Prerequisites : MATH 131 (or higher).
This is the foundational course necessary for applying lasers and/or photonics to other technologies. It covers the basics of light and lasers that will allow a technician to continue his or her studies in any photonics-enabled technology. This course reviews the physics of light, geometrical and wave optics, light sources, basic optical material and lab equipment, laser principles, and laser safety.

ELEC 227   Digital Electronics II* (4 Hours)
Prerequisites : ELEC 125 with a grade of "C" or higher.
Students will continue their study of digital concepts and will learn how to build digital circuitry using digital integrated circuit chips and basic concepts of computer organization. In additional, emphasis will be placed on learning how to troubleshoot digital circuits and digital systems. Each student will build a digital computer through a series of laboratory projects.

ELEC 234   AC Circuits* (4 Hours)
Prerequisites : ELEC 134 with a grade of "C" or higher and MATH 130 (or higher) with a grade of "C" or higher.
The analysis techniques presented in Electronics I will be applied to complex circuits driven by Alternating Current (AC) and pulsed sources. The responses of the circuits having resistance, impedance, inductive and capacitive reactance will be analyzed. Other topics will include transformers and electronic filters.

ELEC 235   Digital Systems and Applications* (4 Hours)
Prerequisites : ELEC 225 or ELEC 227.
This course is designed to provide an introduction to advanced digital systems concepts and applications. This course is a continuation of topics introduced in the Digital Electronics I and II classes. Included are hardware and software topics in embedded systems, peripherals, displays, processors, storage media, diagnostics and troubleshooting. Analog and digital data acquisition and processing will also be covered.

ELEC 236   Semiconductor Devices* (4 Hours)
Prerequisites : ELEC 234 with a grade of "C" or higher.
Topics for this class include the analysis and understanding of diodes and transistors. Special purpose diodes, bipolar junction transistors (BJT) and field effect transistors (FET) will be examined. Additional topics include operational amplifiers (Op-Amps), four-layer semiconductor devices and voltage regulators. Op-Amp applications will cover comparators, summing amplifiers, integrators, differentiators and active filters.

ELEC 240   Electronic Communication Systems* (4 Hours)
Prerequisites : ELEC 236 with a grade of "C" or higher.
This course provides a study of electronic communication systems used in today's world. Topics will include the electromagnetic spectrum, decibels, signal-to-noise ratio, AM and FM super-heterodyne radios, antennas, transmission lines and the Global Positioning System.

ELEC 251   Laser Systems and Applications* (3 Hours)
Prerequisites : ELEC 212.
Laser Systems and Applications covers more advanced concepts in photonics and the operating principles, output characteristics, diagnostics and applications for fiber- and diode-based lasers. These lasers will be classified according to their active medium, output wavelength and applications.

ELEC 252   Specialized Lasers and System Integration* (3 Hours)
Prerequisites or corequisites: ELEC 251.
The advanced course will focus on the function on the Fiber Laser and the Diode (Semiconductor) Laser. Students will work with laser operation and safety procedures. Topics will also cover system integration and the subsystems required in today's industry that depend on Photonics.

ELEC 271   Electronics Internship* (1-3 Hour)
Prerequisites : Department approval.
This course affords the student the opportunity to apply classroom knowledge to an actual work environment. It will provide selected advanced electronics technology students with appropriate on-the-job experience with area employers, under instructional oversight, that will promote the student's career goals. 18 hrs. approved and appropriate work activity/wk.

ELEC 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Emergency Medical Science (EMS)

Courses

EMS 121   CPR I - Basic Life Support for Healthcare Provider (1 Hour)
This course provides an overview of the cardiovascular and respiratory systems, a discussion of medical and environmental emergencies leading to the need for CPR, and an introduction to diagnostic signs and triage, as well as insight into the structure and function of the emergency medical services system. The most current practical CPR skills will be taught, including CPR, AED, and airway obstruction techniques for adults, children and infants. Upon successful completion of all American Heart Association standards, the student will receive affirmation at the Healthcare Provider level.

EMS 129   Emergency Medical Responder* (6 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
The primary focus of the Emergency Medical Responder (EMR) is to initiate immediate lifesaving care at the scene of an emergency for ill or injured patients. This individual possesses the basic knowledge and skills necessary to provide lifesaving interventions while awaiting additional EMS response and to assist higher-level personnel at the scene and during transport. Emergency Medical Responders function as part of a comprehensive EMS response, under medical oversight. Emergency Medical Responders perform basic interventions with minimal equipment. This course is taught according to the Kansas EMS Educational Standards and National Educational Standards and allows students to gain appropriate skills and knowledge necessary for the National and State certifications as an Emergency Medical Responder.

EMS 132   Emergency Medical Technician* (12 Hours)
Prerequisites : EMS 128 or EMS 129 with a grade of "C" or higher or Department approval.
The primary focus of the Emergency Medical Technician (EMT) is to initiate immediate lifesaving care at the scene of an emergency for ill or injured patients. This individual possesses the basic knowledge and skills necessary to provide lifesaving interventions at the emergency scene and during transport. Emergency Medical Technicians function as part of a comprehensive EMS response under medical oversight. Emergency Medical Technicians perform essential interventions with minimal equipment. This course is taught according to the Kansas EMS Educational Standards and National Educational Standards and allows students to gain appropriate skills and knowledge necessary for the National and State certifications as an Emergency Medical Technician.

EMS 140   Basic Cardiology and EKG Recognition* (3 Hours)
Prerequisites : Prospective students should be certified in a health profession, i.e., EMT, RN, LPN, EMT-P.
The health care worker with an understanding of ECG tracing will function more effectively when providing care for the cardiac patient. Increasing numbers of professionals are being called upon to utilize ECG tracing in their work settings, but without adequate knowledge of its use. This course will serve as both continuing education and the preparation for the job entry and/or job advancement. During the course, students will learn to apply monitoring and 12-lead electrodes, diagnose ECG dysrhythmias and infarct locations, treat ECG dysrhythmias, and defibrillate ventricular fibrillation.

EMS 220   Medic I* (10 Hours)
Prerequisites : Admission to the Paramedic program.
Medic I is the first of four courses in advanced out-of-hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. In this narrowly focused but intense foundational course, the paramedic student will gain a significant knowledge of patient assessment, pharmacology and medication administration techniques, electrocardiography, advanced airway management and paramedic scope of practice. Much material will be covered rapidly, and emphasis is on organization, internalization and synthesis of the basic knowledge of the discipline in this 10-week course. Additionally, during the initial psychomotor teaching labs, students will gain the ability to assess patients, administer medications, treat dysrhythmias and manage the airway through manikin practice.

EMS 225   Medic II* (10 Hours)
Prerequisites : Admission to the Paramedic program.
Prerequisites or corequisites: EMS 220 with a grade of "C" or higher.
Medic II is the second of four courses in advanced out-of-hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. This course builds on the foundational knowledge developed in Medic I and covers advanced management of medical and trauma emergencies in the out-of-hospital environment. Much material will be covered rapidly, and emphasis is on organization, internalization, synthesis and application of the basic knowledge of the discipline in this 10-week course. Students demonstrate competency at motor skill performance, and extensive simulation practice is afforded. Students begin field observation with a paramedic ambulance crew and complete an Advanced Cardiac Life Support course.

EMS 230   Medic III Clinicals* (12 Hours)
Prerequisites : Admission to the Paramedic program and EMS 225 with a grade of "C" or higher.
Medic III is the third of four courses in advanced out-of-hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. During Medic III, paramedic students have the opportunity to take the knowledge and skills gained in Medic I and II and apply them in actual supervised clinical practice. Medic III represents a brief, intense 14-week course in which knowledge and skills are synthesized and applied to patients under supervision of physicians and nurses in clinical practice in the emergency department, critical care unit, surgery/ recovery room, labor/delivery room, pediatric emergency department and burn center. Field observation lab and classroom and laboratory review are included as well.

EMS 271   Medic IV Field Internship* (15 Hours)
Prerequisites : Admission to the Paramedic program and EMS 230 with a grade of "C" or higher.
Medic IV is the final of four courses in advanced out-of-hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. During MICT IV, paramedic students have the opportunity to take the knowledge and skills gained in MICT I, II, and III and apply them in an actual practice environment. MICT IV represents an intense 4-month course in which knowledge, skills, and professional behaviors are synthesized and applied to victims of sudden trauma or medical emergencies under the supervision of paramedic preceptors at the emergency scene and in the ambulance. Entry-level competence into the profession is demonstrated as the student demonstrates the ability to assess the scene and the patient, develop a plan for therapeutic intervention as well as scene management, and effectively lead the out-of-hospital resuscitation team's effort. Classroom and laboratory reviews are included.

Engineering (ENGR)

Courses

ENGR 121   Engineering Orientation (2 Hours)
This course explores career options in engineering through activities and guest speakers. Topics include engineering disciplines, professional responsibilities, academic and professional planning, the engineering design process, group projects and engineering challenges. The intent of this course is to introduce students to the engineering industry and the engineering problem-solving process, and to help each student make the best career decision.

ENGR 131   Engineering Graphics I:AutoCAD* (4 Hours)
Prerequisites or corequisites: MATH 130 or MATH 171 or MATH 172 or MATH 173 or MATH 241.
Upon successful completion of this course, the student will be able to apply graphic principles used in the engineering design process. The student will master graphics concepts using computer-aided drafting (CAD) software. Topics include 2-D and 3-D CAD commands; geometric construction; multi-view, orthographic projection; sectional views; isometrics; dimensioning; and descriptive geometry.

ENGR 251   Statics* (3 Hours)
Prerequisites : MATH 242.
Prerequisites or corequisites: PHYS 220.
This course introduces the student to the conditions of rest and motion of bodies under the action of forces. The principles used include vectors, force systems, equilibrium, free body diagrams, centroids, moments of inertia, trusses, frames, and shear and moment diagrams.

ENGR 254   Dynamics* (3 Hours)
Prerequisites : ENGR 251.
This course covers the application of the principles of dynamics, the branch of engineering mechanics that studies objects in motion. Topics include unbalanced force systems (Newton's second law), displacement, velocity and acceleration, work and energy, and impulse and momentum.

English (ENGL)

Courses

ENGL 061   English Grammar Review (1 Hour)
This course reviews parts of speech, sentence elements, and sentence patterns. Students will learn to use an understanding of grammar to find and correct common sentence level errors. This course facilitates the development of writing fluency. ENGL 061 is the same course as EAP 061; enroll in only one. This course does not fulfill degree requirements.

ENGL 062   Sentence and Punctuation Skills (1 Hour)
In this course, students will identify the elements of a sentence, recognize common sentence patterns and learn the correct uses of common punctuation symbols. The emphasis is on composing, combining clauses, and revising sentences using the patterns and punctuation to generate clear, effective, and correct sentences. ENGL 062 is the same course as EAP 062; enroll in only one. This course does not fulfill degree requirements.

ENGL 063   Composing Skills (1 Hour)
In this course, students will learn to apply composing skills to produce effective and varied writing. Students will learn how to choose a topic, narrow the topic, and to organize and develop short pieces of writing; using the skills learned in the course they will revise a text to serve different rhetorical purposes. Emphasis will be given to revision and editing strategies focused on cohesion and effectiveness. ENGL 063 is the same course as EAP 063; enroll in only one. This course does not fulfill degree requirements.

ENGL 064   Revision and Proofreading Skills (1-2 Hour)
In this course, students will learn to apply reviewing, revising, editing, and proofreading skills to produce correctly written prose. Students will learn to recognize and repair typical grammar, mechanical, and usage errors necessary to the revision of all types of writing. This course facilitates the development of writing fluency. ENGL 064 is the same course as EAP 064; enroll in only one. This course does not fulfill degree requirements.

ENGL 065   Writing for Research (1 Hour)
Writing for Research focuses on the fundamental elements of academic research. This course teaches the concepts and skills involved with locating and evaluating relevant information from a variety of sources to develop an academic essay. Students will practice writing and integrating quotations, summaries and paraphrasing into a short research project. ENGL 065 is the same course as EAP 065; enroll in only one. This course does not fulfill degree requirements.

ENGL 098   Writing Strategies* (3 Hours)
Prerequisites : Completion of JCCC placement requirements.
ENGL 098 is designed to give students a solid foundation in grammar and punctuation, helping students overcome obstacles in mechanics that have in the past interfered with their ability to communicate clearly. This sentence-level work soon leads to short paragraphs that offer students the opportunity to practice and refine their writing process. Students in ENGL 098 will learn to view their writing within a rhetorical context of author, message, and audience. Clear, well-organized, well-developed, and mechanically sound foundational writing is the ultimate objective of Writing Strategies. This course is a prerequisite in a sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

ENGL 099   Introduction to Writing* (3 Hours)
Prerequisites : (ENGL 098 or ENGL 102) or completion of JCCC placement requirements.
Beginning with a review of basic sentence skills, this course focuses on paragraph development, including subject selection, topic sentences, methods of development, transitional devices and effective introductions and conclusions. The last part of the course will focus on developing multi-paragraph essays. This course is in a sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

ENGL 121   Composition I* (3 Hours) ⥮
Prerequisites : (ENGL 099 or ENGL 106) or (EAP 113 and EAP 117) or (EAP 087 and EAP 097) or completion of JCCC placement requirements.
Composition I focuses on writing nonfiction prose suitable in its expression and content to both its occasion and its audience. Students will have an opportunity to improve in all phases of the writing process: discovering ideas, gathering information, planning and organizing, drafting, revising and editing. Each text written in the course should clearly communicate a central idea or thesis, contain sufficient detail to be lively and convincing, reflect the voice of the writer and use carefully edited standard written English. By the end of the semester, students should have completed at least 20 pages (approximately 5,000 words) of revised and edited prose.

ENGL 122   Composition II* (3 Hours) ⥮
Prerequisites : ENGL 121.
Composition II focuses on skills essential to gathering, comprehending, analyzing, evaluating and synthesizing information from a variety of academic and non-academic sources. Because writing is integral to college coursework and the workplace, this course emphasizes the rhetorical skills needed to understand and produce complex compositions in a variety of forms, which may include essays, presentations, reports, social media posts and other digital forms of communication. Composition II emphasizes the deep revision needed to compose expository, evaluative and persuasive prose. By the end of the semester, students should have completed at least 25 pages (approximately 6,250 words) of revised and edited prose.

ENGL 123   Technical Writing I* (3 Hours)
Prerequisites : ENGL 121.
This course introduces students to technical and professional writing. Students will apply the writing process, engaging rhetorical strategies, when constructing typical workplace correspondence, such as memos, letters, reports, and digital documents (including writings for social media and asynchronous presentations). By the end of the semester, students should have written approximately 5,000 words in revised and edited documents. Students will focus on effective technical writing criteria: clarity, conciseness, document design, organization, and accuracy. Accuracy specifically requires students to follow standard English grammar and punctuation rules.

ENGL 130   Introduction to Literature* (3 Hours) ⥮
Prerequisites : ENGL 121.
Students will read, discuss and analyze works from three literary genres: the short story, the poem and the play. Students will learn and apply the technical vocabulary used in the criticism of these literary forms. Students will be introduced to representative works from various literary traditions and cultures, including numerous works from contemporary writers.

ENGL 140   Writing for Interactive Media* (3 Hours)
Prerequisites : ENGL 121.
This course teaches students to apply the writing process as well as fundamental rhetorical and composition skills to various interactive media including web pages, CD-ROMs/DVD, e-mail, kiosks, support materials, simulations, social networking and other electronic media. The instruction will focus on skills essential to selecting, evaluating and synthesizing information from primary and secondary sources; in addition, it will emphasize the different approaches to organization that these media require as well as the variety of discourse styles used in informative, instructional, persuasive and entertainment media texts.

ENGL 150   Digital Narratives* (3 Hours)
Prerequisites : ENGL 121.
Games, particularly Role-Playing Games (RPGs) and other participatory narratives, share many properties with traditional narratives, yet differ significantly from their linear counterparts. This course focuses on the elements of narrative as well as the principles that drive virtual or alternative possible worlds (both fictive and reality-based), and it will provide students with practice writing and designing artifacts that demonstrate an understanding of plot, character, setting and the impact of structure and purpose in game development.

ENGL 205   Bible as Literature* (3 Hours)
Prerequisites : ENGL 121.
This course introduces students to the literary aspects of Bible. Students will read extracts from both the Hebrew and Greek portions of the Bible in translation. They will learn to analyze these readings as representatives of the Bible's many literary forms. Students will also sample from later literary works that draw on biblical sources for their inspiration. Students will write essays demonstrating their understanding of the works studied.

ENGL 214   Environmental Literature* (3 Hours)
Prerequisites : ENGL 121.
This course introduces students to some of the major texts of U.S. environmental literature, including non-fiction nature writing, fictional literature, and poetry, and to the historical and intellectual currents that gave rise to them. Its primary focus is on how the concept of nature has been defined and used at different times and by different groups of people, including Native Americans and European colonists at the time of the U.S. founding, transcendentalist thinkers of the 19th century, professional scientists and conservationists in the early and mid-twentieth century, twentieth and twenty-first century novelists and poets, and current advocates of environmental justice. Through these perspectives, students will gain an understanding of how nature functions as a cultural concept that reflects and shapes human values, and they will explore how these intellectual currents affect their own understanding of and experiences with the natural world.

ENGL 215   U.S. Latino and Latina Literature* (3 Hours)
Prerequisites : ENGL 121.
This course introduces students to texts by U.S. writers of Hispanic descent or origin. Written primarily in English, the texts may include fiction, non-fiction, poetry, drama and/or film. The readings, discussions and related writing projects will emphasize the relationship between mainstream America and borderland writers; explore the cultural and artistic context of the writers and their works; recognize and assess the use of major narrative and rhetorical strategies; and stimulate consideration of issues surrounding assimilation, identity formation, code-switching and cultural hybridity.

ENGL 217   Literature by Women* (3 Hours)
Prerequisites : ENGL 121.
This survey course introduces students to a representative sample of texts created by women from the mid-seventeenth century to present. Using the lens of gender, students will explore the social, historical, political and cultural contexts relevant to the literature. Further, students will identify significant literary devices and genres as employed by these authors. The course will emphasize the dynamic relationship between the literature and its contexts.

ENGL 222   Advanced Composition: The Art of the Essay* (3 Hours)
Prerequisites : ENGL 122.
This course challenges writers to move beyond the traditional composition sequence by introducing popular and classic non-fiction forms, presenting advanced argumentation strategies, and editing for rhetorical effect. Students will analyze a variety of writings to identify the conventions, expectations, purpose, and target audience for a variety of nonfiction genres. Students will generate ideas for original compositions, outline processes for discovery and composing their texts, and present their work to a larger audience. Students will apply rhetorical tools and tropes to test their effectiveness in defined rhetorical situations. Students will create original works that combine expository, evaluative and persuasive strategies as appropriate to explore large and complex ideas. By the end of the semester, students should have completed at least 25 pages (approximately 6,250 words) of revised and edited prose.

ENGL 223   Introduction to Creative Writing* (3 Hours) ⏻▶
Prerequisites : ENGL 121.
This course provides an introductory study to the craft of imaginative writing, with an emphasis on the reading and discussion of student manuscripts and of published works by contemporary writers. Students will apply close reading skills to understand the writing techniques used to craft publishable imaginative writing, and practice these techniques in their own writing. Students will study and practice writing in two major literary genres of the instructor's choice: fiction, poetry, creative nonfiction or scriptwriting.

ENGL 224   Creative Writing Workshop* (3 Hours)
Prerequisites : ENGL 223.
In this class, students will build upon the knowledge and skills learned in ENGL 223. This course offers serious writing students the opportunity to continue growing as writers and readers by studying the art of writing, producing a consistent body of writing, examining one another's work and providing a supportive environment. Students may meet the written requirements of the course by writing poetry, fiction, creative nonfiction, dramatic scripts or any combination of the genres. Students will provide written and oral critiques of their classmates' work.

ENGL 225   Creative Writing Workshop: Fiction* (3 Hours)
Prerequisites : ENGL 223.
This course offers students the opportunity to continue to develop their skills in writing and reading fiction. In addition to writing fiction of their own, students will analyze published works of fiction, and they will provide feedback on their classmates' manuscripts. In doing so, they will articulate a critical vocabulary for the craft of fiction and the writing process.

ENGL 227   Introduction to Poetry* (3 Hours)
Prerequisites : ENGL 121.
This course emphasizes close reading and analysis of poetry by writers from different time periods, countries and ethnic backgrounds. Students will study terms, patterns and forms that are useful for an understanding and appreciation of poetic verse. The course will cover major literary, historical and cultural movements as they relate to poetry. Students will be introduced to major classical and contemporary American and English poets, along with contemporary foreign-language poetry in translation.

ENGL 230   Introduction to Fiction* (3 Hours)
Prerequisites : ENGL 121.
In this course, students will read primarily short fiction and will learn a variety of literary perspectives. Students will learn the historical precedents of prose fiction and the similarities and differences among various narrative forms such as the short story, novel, memoir, autobiographical fiction, and graphic fiction. Students will discover the place of prose fiction in major literary movements as well as the key elements of this fiction. Students will study major authors who have contributed to the success of prose fiction, and the course will focus on helping students appreciate diverse viewpoints and perspectives.

ENGL 232   Children's Literature* (3 Hours) ▷
Prerequisites : ENGL 121.
Children's Literature is meant for all students interested in bringing children and books together but is especially suited for those who are students with English or education majors; teachers already in the elementary school classroom; parents; those working with children in preschools, day-care centers and libraries; and grandparents and prospective parents. The course would also benefit those exploring the field of writing and illustrating for children. Students will identify children's needs and interests, list the criteria for choosing books for children, and demonstrate the means by which we can bring children and books together. Students will read, examine and critique a variety of children's literature selected by author, genre and historical time period.

ENGL 235   Drama as Literature* (3 Hours)
Prerequisites : ENGL 122.
This course introduces students to the analysis of plays as literature. Beginning with the Greek dramatists and ending with the contemporary scene, students will read full-length plays and the comments of playwrights, directors, actors and critics. They will analyze drama from psychological, historical, philosophical, structural and dramatic perspectives. Students will write essays demonstrating their understanding of the works studied.

ENGL 236   British Literature to 1800* (3 Hours)
Prerequisites : ENGL 121.
In this survey course, the student will study British literature written up to 1800, ranging from the Anglo-Saxon to the Augustan eras, including works by major authors such as Chaucer, Shakespeare, Milton and Swift. The course will emphasize the relationships among influential writers, their lives and times. Additionally, the student will explore the literary differences between the British culture and one other culture that was governed by the British Empire. Such non-British literary works may be from Australia, India, Asia, various regions of Africa or the Middle East.

ENGL 237   British Literature after 1800* (3 Hours)
Prerequisites : ENGL 121.
In this survey course, the student will study British literature written from 1800 to the present. Major authors from the Romantic, Victorian and Modern eras, such as Austen, Blake, Wordsworth, the Shelleys, Dickens, Tennyson, the Brownings, Eliot and Woolf, will be included. The course will emphasize the relationships among influential writers, their lives and times. Additionally, the student will explore the literary differences between the British culture and one other culture that was governed by the British Empire. Such non-British literary works may be chosen from the traditions of Australia, India, Asia, various regions of Africa or the Middle East.

ENGL 243   Literature of Science Fiction* (3 Hours)
Prerequisites : ENGL 121.
This course examines the literature of science fiction, especially from 1960 through the present. Students explore the unifying concepts of science and technology, depicted through imaginative narratives of the past, present and future. Students read short stories and/or novels, view science fiction films and discuss key science fiction concepts.

ENGL 244   Literature of American Popular Music* (3 Hours)
Prerequisites : ENGL 121.
Students read, analyze, evaluate and discuss the literature surrounding American popular music. No less than any other form of literature, all genres of American popular music are intertwined, engaged in dialogue and revealing of the American experience. By engaging with, comparing and evaluating the conversations between popular music and fiction, poetry and criticism, students will explore the social, historical, political and cultural contexts relevant to the literature. Through this process, students will discover, analyze, synthesize and evaluate the ongoing negotiations between a great diversity of cultural aesthetics, political interests and public opinions in the shaping of American identity.

ENGL 246   American Literature I* (3 Hours) ▷
Prerequisites : ENGL 121.
This survey course is a stand-alone course that presents a series of literary works by American writers that reflects the attitudes and identity of our national literature and culture from the pre-Colonial Period through the post-Civil War era. By grappling with the ideas and characterizations presented in each assigned literary work, the student develops meaningful insights into the attitudes and human conditions that have influenced America's national literary identity.

ENGL 247   American Literature II* (3 Hours) ▷
Prerequisites : ENGL 121.
This survey course is a stand-alone course which need not be taken after American Literature I, covering the pre-Colonial period through the post-Civil War era. American Literature II presents a series of literary works by American writers that reflects the attitudes and identity of our national literature and culture from the post-Civil War era to the present. By grappling with the ideas and characterizations presented in each assigned literary work, the student develops meaningful insights into the attitudes and human conditions that have influenced and are still influencing America's national literary identity.

ENGL 251   World Literature to 1620* (3 Hours)
Prerequisites : ENGL 121.
World Literature to 1620 introduces students to major literary works of the world, including Europe, Asia, the Middle East, the Americas, and other areas, composed from antiquity through the seventeenth century. In conducting a cross-cultural examination of global literatures within broader historical, cultural, political, and social frameworks, including the contexts of class, race and ethnicity, gender, religion, and aesthetics, students will gain a better understanding of how these works have been influential in shaping and expressing human values in our various cultures as well as a deep consideration of how contemporary understandings of the individual and society relate to those expressed in the texts.

ENGL 252   Introduction to Shakespeare* (3 Hours)
Prerequisites : ENGL 121.
Identified by a contemporary as "not of an age, but for all time," William Shakespeare is arguably the most important writer in the English language. In this introductory course, students will read and explore eight to ten plays, situating them in their literary, social and historical contexts, as well as a handful of sonnets. While the course will emphasize close readings of the texts, students will also explore various interpretations of the plays on stage, film and within the wider culture.

ENGL 254   Masterpieces of the Cinema* (3 Hours)
Prerequisites : ENGL 121.
This course examines the development of cinema from the early experiments in the late 1800s up to the present day, presenting the history and art of both American and international cinema. Students read the textbook, view short and full-length films, and discuss important cinematic techniques and concepts. Students verify their judgments by summarizing and analyzing these important concepts, using discussions, and writing effective, well-organized essays in response to specific films.

ENGL 255   Introduction to Grant Writing* (3 Hours)
Prerequisites : ENGL 121 or Department approval.
A successful grant writer possesses many different skills: from effective written communication and researching to project design and management. This course will introduce students who have never written a grant proposal before to this genre that blends storytelling and technical writing. Students will develop elements of a grant proposal, including a Statement of Need, a Logic Model, a Project Timeline, a Sustainability Statement, and a Budget Narrative. Students will rehearse effective research and persuasive writing skills. By the end of the semester, students should have written approximately 5,000 words in revised and edited proposals.

ENGL 291   Independent Study* (1-3 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

ENGL 292   Special Topics:* (3 Hours)
Prerequisites : ENGL 121.
English 292 is a 200-level thematic literature and writing course. In this class, students will have the opportunity to refine their critical reading and writing skills by investigating in-depth a single important theme, topic or genre (e.g., environmental literature, the literature of illness, detective fiction, travel literature, the documentary film tradition, creative non-fiction). Students will engage with a wide range of texts, including those from print, film, and other media. The course may also include selections drawn from various national literatures in translation and a range of historical periods. Special Topics in Literature and Composition may be repeated for credit but only on different topics. This is a repeatable course and may be taken more than once for credit.

English for Academic Purposes (EAP)

Courses

EAP 061   English Grammar Review (1 Hour)
This course reviews parts of speech, sentence elements, and sentence patterns. Students will learn to use an understanding of grammar to find and correct common sentence level errors. This course facilitates the development of writing fluency. ENGL 061 is the same course as EAP 061; enroll in only one. This course does not fulfill degree requirements.

EAP 062   Sentence and Punctuation Skills (1 Hour)
In this course, students will identify the elements of a sentence, recognize common sentence patterns and learn the correct uses of common punctuation symbols. The emphasis is on composing, combining clauses, and revising sentences using the patterns and punctuation to generate clear, effective, and correct sentences. ENGL 062 is the same course as EAP 062; enroll in only one. This course does not fulfill degree requirements.

EAP 063   Composing Skills (1 Hour)
In this course, students will learn to apply composing skills to produce effective and varied writing. Students will learn how to choose a topic, narrow the topic, and to organize and develop short pieces of writing; using the skills learned in the course they will revise a text to serve different rhetorical purposes. Emphasis will be given to revision and editing strategies focused on cohesion and effectiveness. ENGL 063 is the same course as EAP 063; enroll in only one. This course does not fulfill degree requirements.

EAP 064   Revision and Proofreading Skills (1-2 Hour)
In this course, students will learn to apply reviewing, revising, editing, and proofreading skills to produce correctly written prose. Students will learn to recognize and repair typical grammar, mechanical, and usage errors necessary to the revision of all types of writing. This course facilitates the development of writing fluency. ENGL 064 is the same course as EAP 064; enroll in only one. This course does not fulfill degree requirements.

EAP 065   Writing for Research (1 Hour)
Writing for Research focuses on the fundamental elements of academic research. This course teaches the concepts and skills involved with locating and evaluating relevant information from a variety of sources to develop an academic essay. Students will practice writing and integrating quotations, summaries and paraphrasing into a short research project. ENGL 065 is the same course as EAP 065; enroll in only one. This course does not fulfill degree requirements.

EAP 074   Reading and Vocabulary I* (3 Hours)
Prerequisites : Appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students an integrated communication experience at the high beginning college level. Students will learn effective techniques for reading, studying and using American English in an academic setting. This is the first reading course in the sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 075   Reading and Vocabulary II* (3 Hours)
Prerequisites : (EAP 074 or EAP 120) an appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students the opportunity to develop reading fluency, comprehension and vocabulary at the intermediate college level. Reading, writing, speaking and listening will be integrated, and students will learn effective techniques for studying and using American English in an academic setting. This is the second reading course in the sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 076   Reading and Vocabulary III* (3 Hours)
Prerequisites : (EAP 075 or EAP 121) or an appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students an integrated communicative experience at the high-intermediate college level. Students will develop reading fluency, comprehension and vocabulary. Reading, writing, speaking and listening will be integrated, and students will learn effective techniques for using American English to read and study in an academic setting. This is the third reading course in the sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 084   Speaking and Listening I* (3 Hours)
Prerequisites : Appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English speaking students the opportunity to develop their speaking, listening and pronunciation skills. Students will learn effective techniques for using American English in academic, career and personal settings. This is the first speaking course in a sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 085   Speaking and Listening II* (3 Hours)
Prerequisites : (EAP 084 or EAP 105) or an appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students the opportunity to expand fluency in speaking, listening and pronunciation. Students will learn effective techniques for listening with accuracy and speaking with the stress, rhythm and intonation of American English. Personal communications and group interactions in academic, career and community settings are included. This is the second speaking course in a sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 086   Speaking and Listening III* (3 Hours)
Prerequisites : (EAP 085 or EAP 107) or an appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students the opportunity to enhance fluency in speaking, pronunciation and listening at the upper intermediate level. Students will apply standard American English communication patterns to understand lectures, speak in academic settings and communicate in group interactions. Students will learn effective techniques for presenting formal and informal speeches in specific fields of study and academic debates. This is the third speaking course in a sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 087   Speaking and Listening IV* (3 Hours)
Prerequisites : (EAP 086 or EAP 115) or an appropriate ESL assessment test score.
This English for Academic Purposes course offers non-native English-speaking students the opportunity to master speaking, pronunciation and listening at an advanced level. Students will apply advanced communication patterns to understand lectures, speak fluently in academic settings and communicate broadly in group interactions. Students will learn effective techniques for applying advanced strategies to process knowledge from specific fields of study and communicate precise meanings of standard American English. This course will allow students the opportunity to give presentations with idiomatic vocabulary from literature, media and research sources. This course does not fulfill degree requirements.

EAP 094   Writing and Grammar I* (3 Hours)
Prerequisites : Appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students an integrated communicative experience at the beginning college level. Students will learn effective writing techniques and grammatical structures for using American English at the sentence and basic paragraph level. This is the first writing and grammar course in the sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 095   Writing and Grammar II* (3 Hours)
Prerequisites : (EAP 094 or EAP 101) or an appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students an integrated communicative experience. Students will focus on using American English in writing at the paragraph level along with grammatical structures to help ensure student success. This is the second writing and grammar course in the sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 096   Writing and Grammar III* (3 Hours)
Prerequisites : (EAP 095 or EAP 103) or an appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students an integrated communicative experience at the high-intermediate level. Students will focus on developing fluency in writing using American English at the paragraph and multiparagraph level along with grammatical structures to support writing. This course is the third writing and grammar course in the sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

EAP 097   Writing and Grammar IV* (3 Hours)
Prerequisites : (EAP 096 or EAP 111) or an appropriate ESL assessment test score.
This English for Academic Purposes course provides non-native English-speaking students the opportunity to improve fluency in American English in writing at the high intermediate to advanced level. Students will engage in writing tasks that relate to the academic disciplines. The course also focuses on grammar activities including editing strategies for effective writing. This is the fourth writing and grammar course in the sequence of courses leading to ENGL 121. This course does not fulfill degree requirements.

Entrepreneurship (ENTR)

Courses

ENTR 120   Introduction to Entrepreneurship (2 Hours)
The student will understand the role of entrepreneurial businesses in the United States and the impact on our national and global economy. The student will evaluate the skills and commitment necessary to successfully operate an entrepreneurial venture. Additionally, the student will review the challenges and rewards of entrepreneurship as a career choice as well as entrance strategies to accomplish such a choice.

ENTR 130   Entrepreneurial Mindset (3 Hours)
Upon successful completion of this course, the student will be introduced to the entrepreneurial mindset in its true economic and social context by studying the unlimited opportunities that an entrepreneurial mindset can provide. The student will study the skills, attitudes and behaviors that successful entrepreneurs have historically possessed, as well as the issues, circumstances and obstacles that shaped their time. Additionally, the student will analyze modern-day successful entrepreneurs who faced hardship and adversity by embracing an entrepreneurial mindset. The characteristics of the entrepreneurial mindset will be dissected and applied to the student's own mindset and entrepreneurial potential.

ENTR 131   Financial Management for Small Business* (2 Hours)
Prerequisites : ACCT 111 or ACCT 121.
Upon successful completion of this course, the student should be able to identify and evaluate the various sources available for funding a small business; demonstrate an understanding of financial terminology; read, prepare and analyze a financial statement; and write a loan proposal. In addition, the student should be able to explain the importance of working capital and cash management. The student should also be able to identify financing needs, establish credit policies, and prepare sales forecasts.

ENTR 142   Business Plan (3 Hours)
Upon successful completion of this course, the student will be able to evaluate a business concept and write a sound business plan. In the process of doing so, students will be able to assess the strengths and weaknesses of a business concept, collect and organize market research data into a marketing plan, and prepare the financial projects for their business concept. In addition, students will be able to identify and evaluate various resources available for funding small businesses.

ENTR 160   Legal Issues for Small Business (2 Hours)
Upon successful completion of this course, the student should be able to identify the forms of business ownership and the legal and tax implications for each. In addition, the student should be able to explain laws covering issues such as personnel, contracts and protection of intellectual property. The student should also be able to explain the reporting requirements for local, state and federal agencies.

ENTR 180   Opportunity Analysis (2 Hours)
Upon successful completion of this course, the student should be able to assess the current economic, social and political climate for small businesses. In addition, the student should be able to explain how demographic, technological and social changes create opportunities for small business ventures.

ENTR 185   Fundamentals of Direct Sales (3 Hours)
Upon successful completion of this course, the student will learn the history of the direct sales industry as well as its current status and economic impact. Trends, both historic and current, will be reviewed and analyzed. Students will research a variety of direct sales companies to include their history, leadership, products, and methods of operation. Students will demonstrate an understanding of the industry, the role of the direct sales independent contractors working within this industry, and the impact of this industry on today's economy.

ENTR 195   Franchising* (3 Hours)
Prerequisites : MKT 230.
In this course, the student should be able to research the franchising method of doing business from the perspective of both the franchisor and the franchisee. The student will analyze independent management efforts necessary for a successful franchise business venture as well as understand the interdependent contractual obligations that are legally binding between the franchisor-franchisee.

ENTR 210   Entrepreneurship Internship I* (1 Hour)
Prerequisites : Department approval.
Upon the successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. A minimum of 240 hours of on-the-job training is required. This course is required for an associate of science degree in business entrepreneurship. Either ENTR 210 or BUSE 210, Entrepreneurship Internship I, or ENTR 215 or BUSE 215, Entrepreneurship Internship II, is required for a vocational certificate in business entrepreneurship.

ENTR 215   Entrepreneurship Internship II* (1 Hour)
Prerequisites : ENTR 210 and department approval.
Upon the successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. A minimum of 240 hours of on-the-job training is required.

ENTR 220   Entrepreneurial Marketing* (2 Hours)
Prerequisites : MKT 230.
In this course, the student will gain insights essential for marketing an entrepreneurial venture utilizing innovative and financially responsible marketing strategies. The student will analyze marketing philosophies implemented by key successful entrepreneurs. Additionally, the student will prepare a marketing plan to launch the entrepreneurial venture and a marketing plan to implement during the first two years of business operation.

ENTR 225   Family Business (3 Hours)
Upon successful completion of this course, the student will gain the knowledge and skills needed for the successful management and leadership of a family enterprise by exploring a diverse set of family firms, examining the interrelationships among the owners, the family, and the management team. The student will analyze the management and family practices that ensure success while recognizing the advantages and challenges facing family enterprises. Emphasis is placed on positioning the family enterprise for sustained growth and continuity through generations.

Environmental Science (EVRN)

Courses

EVRN 115   Natural History of Kansas (3 Hours)
Natural History of Kansas describes physical and biological processes that have led to the present Kansas landscape. Physical science topics include geology, climate patterns and soil formation. Biological science topics include ecology and a survey of the plants and animals of Kansas. The course will consider how the physical and biological environment relates to past and present human resource uses.

EVRN 124   Oceanus: Essentials of Oceanography (3 Hours)
This course for beginning students focuses on the marine environment as a unique feature of the planet Earth and investigates areas of intense scientific and public concern: the pervasiveness of the ocean and its effect on the earth's weather, its stunning physical size and diversity of contained life forms, its contributions to the physical and historical development of man, its impact on geopolitical and economic matters, and the impact of oceanic pollutants and the potential exploitation of marine resources.

EVRN 130   Environmental Science (3 Hours)
Environmental Science seeks to describe problems and solutions associated with human use of natural resources. Students will study the major physical and biological processes that govern the complex interactions in natural ecosystems. Major course topics include human population growth, resource use and pollution. Practical solutions aimed at sustainability will be identified and examined. This is an introductory, nonscience-major survey course.

EVRN 131   Environmental Science Lab* (1 Hour)
Prerequisites or corequisites: BIOL 130 or EVRN 130.
In this lab, students will learn ecological principles that are necessary for understanding and solving environmental problems. Students will sample the local environment for various types of environmental pollution, conduct lab projects and computer simulations, and attend field trips. Field trips may include a visit to a local wastewater treatment plant, a stream ecosystem and a prairie ecosystem. 2 hrs. lab/wk. plus up to three field trips. EVRN 131 students must be currently enrolled in EVRN 130 or have successfully completed BIOL/EVRN 130 within the last three years.

EVRN 134   Principles of Sustainability (3 Hours)
Principles of Sustainability introduces students to the social, economic and environmental dimensions of sustainability and sustainable development. The course will critically examine the use of sustainable principles to guide decision making and problem solving in personal, campus, community and global contexts. Students will engage in a variety of individual, group, campus and community activities and collaborate with campus and community offices and agencies in order to identify, assess and address local sustainability needs. Students will be required to present their projects at a public sustainability forum.

EVRN 155   Bioethics* (3 Hours)
Prerequisites : BIOL 121 or Department approval.
This course introduces students to the scientific, ethical and legal issues relevant to the discipline of biology and those raised by the rapid development of new biological technologies. Students will examine the major theories of ethics, including deontology, utilitarianism, and select others. Topics include: beginning of life issues such as contraception, abortion, and nontraditional methods of human reproduction; end of life issues such as advance healthcare directives and physician-assisted suicide; and other issues such as experimentation on human and animal subjects and human environmental impacts. EVRN 155 and PHIL 155 are the same courses; only enroll in one.

EVRN 255   Freshwater Ecology (4 Hours)
Freshwater Ecology describes the interaction between freshwater organisms and their environment. Structure and function of streams, lakes, wetlands, and groundwater systems will be explored. Students will learn life histories and identification skills for aquatic organisms including plankton, fish, mollusks, insects and plants. The influence of abiotic factors such as temperature, oxygen, and nutrients will be examined. Field and classroom experiments will be used to apply concepts learned. Students will study local water quality issues and aquatic management strategies to improve ecosystem health.

Fashion Merchandising/Design (FASH)

Courses

FASH 121   Fashion Fundamentals (3 Hours)
Upon successful completion of this course, the student should be able to define appropriate fashion terminology and explain the structure of the industry, including the design process and marketing of the fashion product.

FASH 122   Aesthetics for Merchandising and Design (3 Hours)
Upon successful completion of this course, the student should be able to demonstrate an understanding and apply the concept of aesthetics as it relates to the different roles of the apparel industry and the development, selection and promotion of apparel and textile products. The student will incorporate the principles and elements of design into projects designed to apply their aesthetic knowledge.

FASH 123   Apparel Construction I (4 Hours)
Upon successful completion of this course, the student should be able to apply clothing construction principles, techniques and skills in apparel construction. The class will use lecture, demonstration and hands-on experience to teach the skills needed to plan and construct four garments during this class.

FASH 124   Apparel Construction II* (4 Hours)
Prerequisites : FASH 123 with a grade of "C" or higher or Department approval.
Upon successful completion of this course, the student should be able to apply intermediate apparel construction principles, techniques and skills in the production of various garments. This continuation of FASH 123 will focus on the planning and construction of an ensemble of intermediate complexity made from muslin fitting samples, with emphasis on precise fitting alteration.

FASH 125   Visual Merchandising (3 Hours)
Upon successful completion of this course, the student should be able to explain and apply the principles of design in visual merchandising. In addition, the student should be able to identify and explain the use of mannequins and other forms, display fixtures and lighting systems, apply color theory, and present merchandise effectively in visual displays. The student should also demonstrate the use of appropriate types of displays for in-store promotions.

FASH 127   Advanced Patternmaking* (4 Hours)
Prerequisites : FASH 131 with a grade of "C" or higher or Department approval.
Upon successful completion of this course, the student will be able to apply advanced flat pattern techniques in developing patterns for original apparel designs. Students will be introduced to industry standard patternmaking software and explore the development of production-ready patterns. This class will use a combination of lecture, demonstration, and hands-on computer experience.

FASH 130   Fashion Drawing (3 Hours)
Upon completion of this course, students will be able to create effective fashion drawings to be used as a communication tool in the product development process. Students will use both technical flat sketching and figure drawing techniques in the development of a cohesive collection using a variety of fabrications. This class will explore an assortment of different mediums ranging from traditional pencil and paper to modern digital techniques.

FASH 131   Flat Pattern Development* (4 Hours)
Prerequisites : FASH 123 with a grade of "C" or higher or department approval.
Upon successful completion of this course, students should be able to apply the use of flat pattern methods in developing patterns for original apparel designs. Students will hand draft a set of both standard size and custom slopers/blocks for manipulation into original pattern designs. Students will plan, develop patterns, create pattern instructions and prepare muslin samples of their designs. The class will use a combination of lecture, demonstration and hands on experience to teach the skills necessary in manual pattern development.

FASH 133   Computer Aided Apparel Design (3 Hours)
Upon successful completion of this course, students should be able to apply Adobe Photoshop and Illustrator computer skills to create original textile and apparel designs. Students will learn a variety of different techniques to create portfolio-ready compositions specific to fashion design.

FASH 143   Tailoring* (4 Hours)
Prerequisites : FASH 124 with a grade of "C" or higher or Department approval.
Upon successful completion of this course, the student should be able to apply advanced construction principles, techniques and skills in the production of tailored garments. This course is a continuation of FASH 124, Apparel Construction II. The class will use lecture, demonstration and hands-on experience as the student completes a trial muslin for a jacket or coat plus a finished three-piece ensemble of advanced complexity during this class.

FASH 150   Textiles for Fashion (3 Hours)
Upon successful completion of this course, the student should be able to differentiate fibers and fabrics according to their specific characteristics and to select fibers and fabrics for specific applications. In addition, the student should be able to identify properties and characteristics of natural and man-made fibers, the properties and characteristics of yarns, fabric construction methods including weaving and knitting and finishing processes including printing and dyeing.

FASH 180   Draping* (3 Hours)
Prerequisites : FASH 123 with a grade of "C" or higher or Department approval.
Upon successful completion of this course, the student should be able to apply fundamental draping techniques in the development of original draped garments. This class will build on the concepts of pattern-making by using 3D fabric manipulation to create 2D garment patterns. The class will use a combination of lecture, demonstration and hands-on experience.

FASH 190   Apparel Fit, Alterations and Analysis* (3 Hours)
Prerequisites : (FASH 124 with a grade of "C" or higher) and (FASH 131 with a grade of "C" or higher) or Department approval.
Upon successful completion of this course, the student should be able to analyze and detect common fit problems in various types of garments and apply the knowledge of construction and pattern making to make changes and solve problems. The class will use a combination of lecture, demonstration and hands on experience to teach the skills necessary for pattern alteration to reach desired fit criteria.

FASH 215   Field Study: MAGIC Trade Show* (1 Hour)
Prerequisites : FASH 121.
Upon successful completion of this course, the student will be able to explain the importance of the MAGIC trade show in the fashion industry and explain the different segments of the show. Students should be able to identify different types of attendees and their objectives at the show as well as attend a minimum of two conference seminars and one fashion show.

FASH 224   History of Costume (3 Hours)
Upon successful completion of this course, the student should be able to identify the political, economic, technological and sociological factors that have influenced Western costume worn by women, men and children from ancient Egyptian times to the present.

FASH 225   Store Planning* (3 Hours)
Prerequisites : FASH 125 with a grade of "C" or higher or Department approval.
Upon successful completion of this course, the student should be able to demonstrate the skills needed to plan and execute the display methods and store planning concepts for promoting merchandise within a large or small store interior. These plans will use the student's understanding of design, fixtures, traffic patterns, floor sets, graphics/signage and materials.

FASH 231   Merchandising Planning and Control* (3 Hours)
Prerequisites : MATH 120 or higher.
Upon successful completion of this course, the student should be able to describe the management structure of retail merchandising operations, contrast merchandising functions among various types of retail operations, explain the buying process, explain the financial operations of retail merchandising and apply these principles in computer-simulated case situations.

FASH 235   Online Retailing (3 Hours)
Students in this course will explore the history of online retailing and learn about the challenges retailers face when making decisions to move from conventional retail methods to e-retail. This course will introduce students to the techniques that are used to develop successful online stores. Students will develop a detailed store plan and create their own store using online e-commerce tools. 3 hrs. lecture/wk.

FASH 242   Product Knowledge for Merchandisers (3 Hours)
Upon successful completion of this course, the student should be able to evaluate a wide range of textile and nontextile products, from diamonds to table top, on the basis of specialized product knowledge. In addition, the student should be able to research brands.

FASH 255   Apparel Specification Technology* (3 Hours)
Prerequisites : (FASH 131 with a "C" or higher) and (FASH 133 with a "C" or higher) or Department approval.
Upon successful completion of this course, the student should be able to define the critical components of an apparel technical package and its importance in the product development process. Students will use industry product lifecycle management software to develop a detailed apparel technical package. The class will use lecture, demonstration and hands on experience.

FASH 268   Field Study: The Market Center* (3 Hours)
Prerequisites : FASH 121.
Upon successful completion of this course, the student should be able to identify and distinguish between national, regional and local retail market centers. In addition, the student should be able to explain the importance of market centers, analyze the marketing mix of selected retailers and describe uses of fashion auxiliary services.

FASH 270   Apparel Product Development* (3 Hours)
Prerequisites : (FASH 124 with a grade of "C" or higher) and (FASH 130 with a grade of "C" or higher) and (FASH 131 with a grade of "C" or higher)and (FASH 133 with a grade of "C" or higher) or Department approval.
Upon successful completion of this course, students should be able to develop original garment design ideas from initial concept through to production. The process begins with translating market trend research to create inspiration/concept presentation boards. Students will then continue the design process through fabric selection and developing original patterns for first samples using flat pattern drafting and draping techniques. Finally, students will begin to develop prototypes for an apparel collection for the annual fashion show.

FASH 277   Fashion Seminar: Career Options (2 Hours)
Upon successful completion of this course, the student should be able to define individual career goals after a thorough examination of five career areas within the fashion industry. In addition, the student should be able to explain strategies for success in the workplace.

FASH 282   Fashion Internship (1 Hour)
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual employment opportunity. This course offers work experience under instructional supervision and is designed to provide practical experience in the fashion industry. Successful completion of this course requires a minimum of 180 hours on-the-job training per semester. This is a repeatable course and may be taken more than once for credit.

FASH 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

FASH 295   Capstone: Merchandising and Marketing* (3 Hours)
Prerequisites : Department approval.
This course is a culmination of the Fashion Merchandising and Marketing program course work. It should be taken after completing at least 40 credit hours toward the AAS degree in preparation for graduation. The student will have opportunities to apply knowledge gained in prior courses analyzing industry topics. This capstone course will review and evaluate competencies that are essential for employment in the fashion industry. Students will prepare a resume and digital portfolio of work to be presented in a professional manner.

FASH 297   Capstone: Apparel Design and Technology* (4 Hours)
Prerequisites : Department approval.
This course is a culmination of the Apparel Design and Technology program coursework. It should be taken after completing at least 40 credit hours toward the AAS degree in preparation for graduation. The student will have opportunities to apply the skills and knowledge gained in prior courses to develop an original apparel collection for the annual student fashion show. Students will compile, select, and create new material for a professional digital portfolio. Students will present their digital portfolio of work to faculty and industry professionals. This capstone course will review and execute key competencies that are essential for employment in the fashion industry.

Film and Media Studies (FMS)

Courses

FMS 100   Intro to Film (3 Hours)
The holistic intent of this course is to introduce students to film as an art form that goes beyond entertainment. This is an introduction to film through analyzing and thinking critically about film as a visual art medium. Students will analyze a film's impact on society and the use of film as a medium of expression and will watch films in order to evaluate the strategies used by the filmmaker to create meaning for the viewer. Students will read and interpret basic signs, syntaxes and structures of cinematic language; locate film in historical, cultural, political and social contexts; and critique film using various methodologies. Students will also recognize and identify filmmaking as a business by defining stages of filmmaking, the various employed positions and the duties used in the making of a film. They also will evaluate the effect of the film industry on the society within which films are being made.

FMS 200   Intro to Filmmaking and Media Aesthetics (3 Hours)
This is an introduction to filmmaking and media aesthetics through practical application of cinematic language and techniques, theories and methodologies. The holistic intent of this course is for students to learn basic filmmaking techniques while also developing an understanding of film as a visual art medium that goes beyond entertainment. Students will be introduced to the concepts of time, space, composition, movement, editing, light, color and sound. Students will learn about the ethical considerations of the medium and the cultural importance of film as it reflects and shapes society. This course is a practical emphasis on learning how to creatively apply elements of design, camera lens and sound recording principles to create concept forward films. Examples of these aspects of film and associated media will be examined and discussed in depth.

FMS 275   Introduction to Film and Media Production* (3 Hours)
Prerequisites : FMS 200.
Prerequisites or corequisites: FMS 100.
This is an introduction to basic film and media production. In this course, you will become familiar with basic technical and aesthetic practices through hands-on production exercises and projects. You will finish the course with a solid understanding of single-camera technique, set operations, fiction and non-fiction filmmaking processes, and emerging trend in filmmaking as an art form. You will learn to how to articulate your experiences, ideas and images cinematically, and how to collaborate with your peers to produce good work. The holistic intent of the class is to create film and media that gives viewers an emotional, intellectual or visceral experience. The assignments in this course are geared toward learning to construct effective film and media experiences and learning the specific technologies and practices to translate concepts and artistic intentions to screen or projection.

FMS 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the study of Film and Media, not usually taught in the curriculum. Due to the breadth and depth of the discipline, this course may expand upon a topic introduced in a current course, synthesize topics that cross-cut existing courses, or explore a topic not addressed currently in the Film and Media Studies curriculum. Students may repeat Special Topics in Film and Media Studies for credit but only on different topics. This is a repeatable course and may be taken more than once for credit.

Fire Services Administration (FIRE)

Courses

FIRE 112   Hazardous Materials Awareness and Operations* (3 Hours)
Prerequisites : Department approval.
Corequisites: FIRE 113 and FIRE 114 and FIRE 115.
This course prepares the student for the Hazardous Materials Awareness certification through Kansas Fire and Rescue Training Institute. It provides the didactic and skills needed for state certification in a simulated manner for state certification. The purpose of this course is to develop an emergency response contingency plan to deal with hazardous material or chemical emergencies in compliance with regulations in order to protect human health and the environment as well as to minimize an organization's risk. Students seeking state certification for Hazardous Materials Operations are required to complete FIRE 115.

FIRE 113   Firefighter I* (3 Hours)
Prerequisites : Department approval.
Corequisites: FIRE 112 and FIRE 114 and FIRE 115.
This course provides an entry level overview of firefighter safety, fire behavior, building construction, protective clothing, equipment, firefighting techniques and rescue procedures. Students receive a solid foundation of classroom and hands-on training to prepare them for the Firefighter I written certification test through Kansas Fire and Rescue Training Institute. Eligible students will be provided the opportunity to take the third-party certification written test upon completion of this course.

FIRE 114   Firefighter II* (3 Hours)
Prerequisites : Department approval.
Corequisites: FIRE 112 and FIRE 113 and FIRE 115.
This course builds on the concepts and skills presented in FIRE 113 course. Students will have the opportunity to expand their understanding of fire ground operations and prevention activities reinforced by realistic exercises in various fire ground operations including: extrication, rescues, water supplies, ventilation, emergency communications and responsibilities of the firefighter. The students receive a solid foundation of classroom and hands-on training to prepare them for the Firefighter II certification written test through Kansas Fire and Rescue Training Institute.

FIRE 115   Firefighter Practicum* (3 Hours)
Prerequisites : Student must be 18 years of age prior to first day of the class and Department approval.
Prerequisites or corequisites: FIRE 112 and FIRE 113 and FIRE 114.
This course builds on the concepts and skills presented in FIRE 112, FIRE 113, and FIRE 114. Students will take part in Live Fire training scenarios which prepare them specifically for their state certification skills tests through Kansas Fire and Rescue Training Institute. Students in this course will also produce two projects specific to the testing requirements for the firefighter certification.

FIRE 126   Historical Foundations of the Fire Service* (3 Hours)
Prerequisites : Department approval.
Emphasis is placed on the historical evolution of the fire service as it pertains to the equipment, organizational structures, terminology, customs and traditions. Students will be involved in looking at primary and secondary documents in developing an understanding of the fire service culture. Critical analysis and historical research will be advanced in the curriculum using historical records and artifacts.

FIRE 127   Building Construction for the Fire Service* (3 Hours)
Prerequisites : Department approval.
Building Construction for the Fire Service is designed to enhance the safety of fire service personnel who are working in and around structures, collapse zones, and building in all states of damage (fire, collapse, flood, tornado). The course covers building construction types, construction methods, various power supply systems and specific hazards for fire personnel.

FIRE 133   Fire Investigation* (3 Hours)
Prerequisites : Department approval.
An orientation and introduction to fire origin and cause, laws of arson, fire and police investigation, and a technical analysis of arson and fraud. Emphasis is placed on the collection and preservation of evidence, photography, diagrams, interviewing, and preparing for court.

FIRE 136   Fire and Emergency Management* (3 Hours)
Prerequisites : Department approval.
Managing resources is a part of every incident. The ability to manage these resources is crucial in safely and effectively mitigating the incident. Organizations must have a system in place prior to the incident, which will facilitate the management of resources. Federal legislation mandates organizations, which respond to hazardous materials incidents, use an incident management system. This course provides information about incident management systems, as well as pursues issues wherein it needs to be utilized.

FIRE 152   Codes, Detection and Suppression Systems* (3 Hours)
Prerequisites : Department approval.
This course will provide a basis for students to become familiar with and utilize fire codes that are in use today. It will also provide students with basic knowledge of detection and suppression systems that are an ever increasing part of fire control today.

FIRE 162   Firefighting Tactics* (3 Hours)
Prerequisites : Department approval.
Strategy and tactics are essential competencies required to mitigate fires. This course is designed to prepare a fire officer to be able to provide tactics at a structure fire, fully utilizing available resources in a safe and efficient manner.

FIRE 201   Leadership in the Fire Service* (3 Hours)
Prerequisites : Department approval.
This is a course that will delve into leadership as defined and utilized in the fire service setting. It will review many types of leaders and the qualities that make them leaders. It will also provide students insight into the type of leaders they may see in the fire service as well as provide them with role models for their use as future fire service leaders.

FIRE 220   Fire Management* (3 Hours)
Prerequisites : Department approval.
This course will involve the student in learning proper methods of supervision and the duties of a fire department first line manager. It will encompass supervisory techniques as well as various management theories. This course will assist the student in the application of techniques and the practical use of management theories in the role as a fire service manager.

FIRE 222   Fire Science Law* (3 Hours)
Prerequisites : Department approval.
The student will have the opportunity to explore legal aspects of the fire and emergency services departments. This course discusses OSHA regulations, basic human resources concepts, employee and employer rights, HIPPA regulations from the lens of fire and emergency services administrators. Case studies of legal precedence for fire investigations are used as a method of applying concepts in this course.

FIRE 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

FIRE 292   Special Topics:* (1-5 Hour)
Prerequisites : Departmental approval.
This course periodically presents specialized topics in Fire Science that are not offered in the regular curriculum. Special Topics may be repeated for credit, but only on a different topic. This is a repeatable course and may be taken more than once for credit.

Floriculture (FLR)

Courses

FLR 130   Principles of Traditional Design (3 Hours)
This course teaches the guidelines and basics of floral design. These principles are known as balance, composition, harmony, focal point, proportion, line, rhythm, texture, form, space, and color. The course will help the students develop an eye for color combinations, flow of lines, perspectives and the post-harvest care of floral materials. Recommendations are made that pertain to receiving, unpacking and processing the flowers. Methods of conditioning, hardening, and forcing flowers and use of preservatives are illustrated.

FLR 150   Contemporary Design Styles (3 Hours)
This course will focus on contemporary, Asian, and current trends in floral design. The course will help students develop their skills in asymmetrical balance, negative space, focal point, dramatic lines. Also included is the history of oriental design, cutting edge design, twigs, branches, pods to be used for textures, bold color schemes, and further discussion of the "less is more" concept.

FLR 200   Plants for Interior Design (3 Hours)
This course discusses the basic aspects of healthy plant growth, including the functions of the root system and the leaf. Photosynthesis, respiration, and transpiration are explained, and the factors that affect these processes are discussed. Students will also learn Plant Nomenclature (common names and scientific names) for many plants. Students will be able to diagnose an unhealthy plant and determine the necessary steps needed to take to bring it back to health. The course will help students obtain a greater appreciation of foliage and blooming plants and understand their role in improving the interior environment.

FLR 220   Wedding Design* (3 Hours)
Prerequisites : FLR 130 or FLR 150.
This course will focus on traditional and contemporary wedding designs. Because weddings often constitute a large portion of a florist's business, it is imperative that students become proficient in various wedding designs and be trained in many specialized arranging techniques. The course covers steps in creating the bridal bouquet, including round, crescent, cascade, triangle, and hand-tied. Corsage construction, hair pieces, and other accessories will be discussed. Marketing and promotional efforts to build the wedding business will also be discussed.

FLR 250   Special Event Designs* (3 Hours)
Prerequisites : FLR 130 or FLR 150.
This course will focus on large-scale designs to include large buffet florals, themed designs, sympathy designs, large altar and reception florals. The student will learn how to combine flowers using texture, shape and color for different effects. Interesting ways to use foliage, twigs, mosses and other accessory materials will be presented along with different uses of ribbon. The student will learn to create large-scale designs within a specified budget.

Foreign Language (FL)

Courses

FL 120   Elementary German I (5 Hours)
In this basic course, students will study German grammar, conversation, composition and the culture of German-language cultures.

FL 121   Elementary German II* (5 Hours)
Prerequisites : FL 120 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the vocabulary and basic structural patterns begun in Elementary German I with continued emphasis on the development of listening comprehension, speaking, reading and writing skills.

FL 130   Elementary Spanish I (5 Hours)
In this basic course, students will study Spanish grammar, conversation, composition and the culture of Spanish-speaking countries.

FL 131   Elementary Spanish II* (5 Hours)
Prerequisites : FL 130 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Elementary Spanish I. Focus is on developing more advanced conversational skills and cultural understanding.

FL 135   Basic Spanish for Hospitality Management (3 Hours)
This course is designed to provide students with basic Spanish for a career in the hospitality industry. The course covers greetings, courtesy phrases and terminology related to hotels, kitchens and restaurants. The course provides activities to develop the four skills of language acquisition: reading, listening, speaking and writing. Students will learn phrases to effectively interact with Spanish-speaking staff. Students will read about the diversity of the Spanish-speaking population in the US and how that affects their interaction with the Hospitality staff.

FL 140   Elementary French I (5 Hours)
In this basic course, students will study French grammar, conversation, composition and the culture of French-speaking countries.

FL 141   Elementary French II* (5 Hours)
Prerequisites : FL 140 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Elementary French I. Focus is on developing more advanced conversational skills and cultural understanding

FL 165   Elementary Chinese I (5 Hours)
This course will introduce students to the basic sounds, vocabulary, grammar and usage, characters and reading of the Chinese language. The emphasis will be on developing basic conversational skills. Students will develop an understanding and appreciation of Chinese culture.

FL 166   Elementary Chinese II* (5 Hours)
Prerequisites : FL 165 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Elementary Chinese I. Focus is on developing more advanced communication skills in reading, writing and speaking, as well as cultural understanding.

FL 170   Elementary Japanese I (5 Hours)
In this basic course, students will study Japanese grammar, conversation, composition and the culture of Japan.

FL 171   Elementary Japanese II* (5 Hours)
Prerequisites : FL 170 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Elementary Japanese I. Focus is on developing more advanced conversational skills and cultural understanding.

FL 172   Conversational Japanese I* (2 Hours)
Prerequisites : FL 171 with a grade of "B" or higher or department approval.
This course enhances students' ability to express themselves orally in Japanese at the elementary level through vocabulary building and reiteration of essential grammatical structures. The vocabulary emphasizes everyday life situations and cultural events. Placement is recommended.

FL 182   Intermediate Japanese I* (5 Hours)
Prerequisites : FL 171 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Elementary Japanese II. Focus is on developing more advanced interpersonal communication skills and cultural competence.

FL 183   Intermediate Japanese II* (5 Hours)
Prerequisites : FL 182 with a grade of "C" or higher or an appropriate score on the placement test or department approval .
This course will continue the presentation of the material introduced in Intermediate Japanese I. Focus is on developing more advanced interpersonal communication skills and cultural competence.

FL 184   Conversational Japanese II* (2 Hours)
Prerequisites : FL 182 with a grade of "B" or higher or Department approval.
This course enhances students' ability to express themselves orally in Japanese at the intermediate level through vocabulary building and reiteration of essential grammatical structures. The vocabulary emphasizes everyday life situations and current events. Placement is recommended.

FL 192   Intermediate Chinese I* (3 Hours)
Prerequisites : FL 166.
This course is a continuation of study of the Chinese language and culture, emphasizing the sounds, vocabulary, grammar, usage and readings of the Chinese language. Focus will be on developing more advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed.

FL 193   Intermediate Chinese II* (3 Hours)
Prerequisites : FL 192.
This course is a continuation of study of the intermediate Chinese language and culture, emphasizing the sounds, vocabulary, grammar, usage and readings of the Chinese language. Focus will be on developing more advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed.

FL 220   Intermediate German I* (3 Hours)
Prerequisites : FL 121 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Elementary German II. Focus is on developing more advanced interpersonal communication skills and cultural competence

FL 221   Intermediate German II* (3 Hours)
Prerequisites : FL 220 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Intermediate German I. Focus is on developing more advanced interpersonal communication skills and cultural competence.

FL 223   Conversational German* (2 Hours)
Prerequisites : FL 121 or two years of high-school German.
By applying vocabulary and structures presented in the text and handouts and by applying knowledge gained in a systematic review of German, the successful student will be able to communicate in German in situations that typically arise while traveling in a German-speaking country. Placement test recommended; can be taken at the Testing Center.

FL 230   Intermediate Spanish I* (3 Hours)
Prerequisites : FL 131 with a grade of "C" or higher or an appropriate score on the placement test or department approval .
This course will continue the presentation of the material introduced in Elementary Spanish II. Focus is on developing more advanced interpersonal communication skills and cultural competence.

FL 231   Intermediate Spanish II* (3 Hours)
Prerequisites : FL 230 with a grade of "C" or higher or an appropriate score on the placement test or department approval .
This course will continue the presentation of the material introduced in Intermediate Spanish I. Focus is on developing more advanced interpersonal communication skills and cultural competence.

FL 234   Conversational Spanish* (2 Hours)
Prerequisites : FL 230 with a grade of "B" or higher or FL 231 with a grade of "C" or department approval.
This course enhances students' ability to express themselves orally in Spanish through vocabulary building and reiteration of essential grammatical structures. The vocabulary emphasizes everyday life situations and current events. Placement test recommended; can be taken in the Testing Center.

FL 240 Intermediate French I* (3 Hours)
Prerequisites : FL 141 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Elementary French II. Focus is on developing more advanced interpersonal communication skills and cultural competence.

FL 241 Intermediate French II* (3 Hours)
Prerequisites : FL 240 with a grade of "C" or higher or an appropriate score on the placement test or department approval.
This course will continue the presentation of the material introduced in Intermediate French I. Focus is on developing more advanced interpersonal communication skills and cultural competence.

FL 243 Conversational French* (2 Hours)
Prerequisites : FL 141 or two years of high-school French.
This course is designed to build spontaneous speaking ability. Everyday situations and current events will be discussed in class. Placement test recommended; can be taken in the Testing Center.

FL 270 Intermediate American Sign Language I* (3 Hours)
Prerequisites : ASL 121 with a grade of "C" or higher.
This course will focus on the development of intermediate American Sign Language communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. ASL 122 and FL 270 are the same course; only enroll in one. 6 hrs. integrated lecture/lab/wk.

FL 288 Spanish for Heritage and Advanced Speakers of Spanish* (3 Hours)
Prerequisites : Department approval.
This course is specifically offered to students who learned to speak Spanish at home, but who have had little or no formal Spanish grammar training. Students will develop their reading, speaking, listening and writing skills. Students will learn about the cultures of Spanish-speaking countries. The course would also be offered to students who have learned Spanish as a second language and read, speak, listen and write at an advanced level.

FL 291 Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

FL 292 Special Topics:* (1-3 Hour)
Prerequisites : Department approval .
This course presents specialized topics in Foreign Language that are not available in the regularly offered curriculum. This is a repeatable course and may be taken more than once for credit.

Game Development (GAME)

Courses

GAME 102 The Business of Games (3 Hours)
In this course, students are introduced to the business and process of game development, from the concept document to publishing. Students will learn the stages of game development within the context of the often complex relationship between developer, publisher and retailer. The course uses a participatory format emphasizing analytical thinking and problem solving, both key skills for persons seeking a career in the game development industry.

GAME 104 Introduction to Game Development (1 Hour)
This course covers the basics of game design and production. Topics include the fundamentals of managing game development, development of a plan for a game, the game production process, the history and business of games, and the various job roles in the industry.

GAME 105 Beginning Game Creation (3 Hours)
This course introduces students to the game creation process. Students will use a games engine, create code, construct documentation, and employ design principles.

GAME 120 Game Design I* (4 Hours)
Prerequisites : GAME 104 and GAME 105.
This course is designed to give people who are interested in creating games the foundations they need to create fun, engaging experiences for players. Students will learn the basics behind creating compelling and entertaining experiences for players. The four key focuses will be on fun, theme, mechanics, and essential experience. During the course students will create a complete game.

GAME 121   Game Programming I* (4 Hours)
Prerequisites : CIS 142 and GAME 104 and GAME 105.
Corequisites: CS 201.
This course is designed to present skills and provide hands-on experience required to create basic three-dimensional games. Typical topics will include 3D engine evaluation, differences between platforms, core game logic, proper use of external assets, and publishing. Typical tasks will include configuration and installation of 3D engines, creating several games, integration of non-programming assets, and exercises that will highlight important game programming concepts.

GAME 131   User-Centered Design* (4 Hours)
Prerequisites : CIS 142.
Corequisites: GAME 121.
This course will cover the uses of custom-built tools in game development. It will also cover how to gather the requirements for tools and build them.

GAME 132   Game Level Editing* (4 Hours)
Prerequisites : GAME 105,
This course will cover how to create a prototype level, place interactive elements, and script the general gameplay and flow of the level. Upon successful completion of the course students will have created a fully playable game level.

GAME 134   Game World Creation* (4 Hours)
Prerequisites : GAME 105.
In this course students will study what exactly world, region, and level means to different games. Students will also create a game world, region and level during the semester using current industry tools.

GAME 136   Game Prototyping* (4 Hours)
Prerequisites : GAME 105.
This course will cover the best practices and techniques for rapidly creating prototypes. Students will learn how to focus prototyping efforts on specific game play areas and how to evaluate the success and failure of a prototype. Multiple prototypes will be created during the semester.

GAME 180   Artificial Intelligence for Games* (3 Hours)
Prerequisites : CIS 142 and GAME 105.
Upon successful completion of this course, students should be able to deconstruct simple program scripts within a game engine illustrating introductory concepts in artificial intelligence (AI) as applied to computer games. The students will define terms and application areas in the field, and describe game representation and implementation techniques used in artificial intelligence for games.

GAME 220   Game Design II* (4 Hours)
Prerequisites : GAME 120.
In this course students will learn how to use mechanics to create and control feedback systems, emergent gameplay, and establish game balance. This course will also cover how to handle rewards and punishment, how interface design can make or break a game, and how games can be created as sports.

GAME 221   Game Programming II* (4 Hours)
Prerequisites : GAME 121.
Corequisites: CS 236.
This course is designed to give students a deeper understanding of 3D game programming techniques. Students will study multi-threading, networking, use of analytic software, shader basics and user-generated content systems. Students will create a 3D game using all of these techniques.

GAME 235   Game Quality Assurance* (2 Hours)
Prerequisites : GAME 105.
In this course, students are introduced to the concepts and skills involved in testing video games. The course emphasizes the importance of testing and various methods and approaches used in game testing. This course will also cover how to correctly write up and report errors found in games.

GAME 238   Serious Game Design* (3 Hours)
Prerequisites : GAME 220.
In this course, students will examine the various aspects of serious games and how games have outgrown being just a source of entertainment. Students will study educational games, training simulations, and games for change. Students will also complete a basic educational game prototype.

GAME 242   Agile Game Development* (3 Hours)
Prerequisites : GAME 105 and department approval.
This course will cover the Agile software development methodology using Scrum. It will also cover how Scrum can be applied specifically to the processes used in game development.

GAME 250   Game Capstone* (4 Hours)
Prerequisites : GAME 180 and GAME 220 or GAME 221 and GAME 242.
This course is designed for students to apply the foundations of game design and game programming to a significant original game. Students will work within a team to analyze a problem, develop and present a proposed game design document, build a demonstrable prototype of the game and develop a significant portion of the finished product. Students should also develop a project schedule and present progress information to the class. Students should also develop job search skills and both written and oral communication skills.

GAME 255   Mobile Game Programming* (4 Hours)
Prerequisites : GAME 221.
This course is designed for students who want to learn mobile device game programming. The students will learn the various limitations on mobile devices and the options available for programming them. They will create a 2D game for mobile devices.

GAME 292   Special Topics:* (3 Hours)
Prerequisites : GAME 220 or GAME 221.
This course presents specialized topics in game development that are not available in the regularly offered curriculum. Special Topics may be repeated for credit, but only on different topics. This is a repeatable course and may be taken more than once for credit.

Geoscience (GEOS)

Courses

GEOS 130   General Geology (5 Hours)
In this introductory course the students will survey the geologic processes that form and shape the earth over geologic time using the models of the rock cycle, the hydrologic cycle and the tectonic cycle. In the laboratory they will conduct hands-on activities designed to enhance and reinforce the geologic concepts they have studied.

GEOS 140   Physical Geography (3 Hours)
This course is a survey of the physical and environmental topics of geography, including the methods used to study them. The Earth as a system and the subsystems of the atmosphere, hydrosphere, lithosphere and biosphere constitute the major units of study. Students will acquire basic terminology that they will use to explain the earth, the atmosphere, the landscape, and the processes that occur on earth to change the landscape. Topics may include mapping with topographic maps and remote sensing; development and structure of the atmosphere; weather; water resources; climate; rock formation; mountain building; chemical and physical weathering; mass movement; soil formation; erosion, transportation and deposition by running water, wind, ice, currents, waves and tides; and the foundation that these processes build for the biosphere on earth.

GEOS 141   Physical Geography Lab* (2 Hours)
Prerequisites or corequisites: GEOS 140.
Students in this course will practice their knowledge of physical geography through the collection and analysis of atmospheric data and the identification and interpretation of landforms and biological patterns as depicted on topographic maps and remotely sensed imagery.

GEOS 145   World Regional Geography (3 Hours)
World Regional Geography is an introductory course in geography which emphasizes human relationships among one another and how they vary over space and time from a regional perspective. Students will survey major regions of the world and be able to identify each region's distinguishing geographic characteristics, summarize its past development, and explain the key issues affecting the region's future development.

GEOS 155   Human Geography (3 Hours)
Human Geography is an introductory course in human/cultural geography that emphasizes human relationships among one another and how they vary over space and time. Human conflicts that result from these differences will also be discussed. This course introduces students to basic concepts in human geography relating to economic activities, landscapes, languages, migrations, nations, regions, and religions. Human Geography serves as the basis for further course work in cultural, economic, political, population, and urban geography.

Global & International Studies (GIST)

Courses

GIST 101   Study Abroad Reflections* (1-3 Hour)
Prerequisites : Department approval; student must be enrolled in the study abroad program.
This course will assist students in maximizing their study abroad experience. In this course, students will reflect on the three phases of study abroad: pre-departure, being abroad and return. The topics covered in this course include general administrative and logistical issues, intercultural interactions, global competencies, culture shock, integration of study abroad experiences with current life and future plans, and the impact of international/intercultural experiences on one's self and one's worldview. Students through reflection on their study abroad experience will identify new skills and growth, and articulate how these will enhance their professional, personal and academic goals. This is a repeatable course and may be taken more than once for credit.

GIST 250   Introduction to Globalization (3 Hours)
This course will provide students with the origins and current implications of globalization. In this course, students will examine the question "what is globalization?" The topics covered include economic and political globalization as well as global security, culture and environmental issues. The goal of this course is to introduce students to the variation in global issues that influence national policy and our daily lives. 3 hrs. lecture/wk.

Graphic Design (GDES)

Courses

GDES 120   Introduction to Graphic Design (3 Hours)
This course is designed to acquaint the student with the various aspects of the graphic design field. Topics include the ways in which visual messages are used in society, the skills needed by a graphic designer and the potential areas of specialization and employment. This class will have guest speakers from the field of graphic design. Emphasis will be on assisting the student to make an informed decision about graphic design as a career.

GDES 125   Graphic Processes* (3 Hours)
Prerequisites : ART 124 and GDES 120 and (CDTP 190 or CDTP 135 and CDTP 140 and CDTP 145).
This course covers technical processes for the graphic image through traditional and current production and printing methods. Creative approaches to image manipulation are explored to construct graphic communication for various channels.

GDES 130   Drawing and Media Methods I* (3 Hours)
Prerequisites : ART 124 and GDES 120 and (CDTP 190 or CDTP 135 and CDTP 140 and CDTP 145).
This course will provide instruction in perceptual methods, perspective theory and drawing techniques as they apply to visual analysis and visual problem-solving in graphic design.

GDES 131   Drawing and Media Methods II* (3 Hours)
Prerequisites : GDES 125 and GDES 130.
This course is a continuation of Drawing and Media Methods I, with emphasis on the creative application of perspective theory, perceptual skill and drawing methods. Drawing methods and rendering techniques will be applied to visual problem-solving processes and the communication of design concepts.

GDES 132   Typography* (3 Hours)
Prerequisites : ART 124 and GDES 120 and (CDTP 190 or CDTP 135 and CDTP 140 and CDTP 145) .
Corequisites: GDES 125.
This course will provide instruction in the basic principles of contemporary typographic design. Information concerning typography, from traditional letterpress through digital type design and typesetting, will be included. The course content will emphasize effective methods of communicating to a mass audience through the printed letter, word, line and page.

GDES 134   Layout Design* (3 Hours)
Prerequisites : GDES 125 and GDES 132.
This course will provide a basic study of layout design. Students will acquire the skills needed to create design layouts. These skills include traditional and contemporary grid systems for digital layouts for publication. Layout design and conceptual problem-solving skills will be emphasized.

GDES 230   Drawing and Media Methods III* (3 Hours)
Prerequisites : ART 127 and ART 129 and GDES 131 and GDES 134.
This course will provide an understanding of the application of illustration to graphic design. Visual problem-solving processes acquired in GDES 131: Drawing and Media Methods II will be further developed through problems in image composition emphasizing expressive communication. Techniques in traditional and digital media are explored.

GDES 231   Advanced Typography* (3 Hours)
Prerequisites : ART 127 and ART 129 and GDES 130 and GDES 134.
This course is a continuation of Layout Design. Emphasis will be on typographic solutions that explore verbal/visual messages. Projects include designs for publication, such as posters, brochures, packaging and graphic campaigns. Typography as a functional and experimental medium will be stressed. Design problem-solving for a diverse range of specifications, including audience, client needs and budget constraints, are included. Traditional and digital tools will be incorporated to produce comprehensives.

GDES 235   Production Methods* (3 Hours)
Prerequisites : ART 127 and ART 129 and GDES 130 and GDES 134 .
This course will provide the fundamentals of preparing and building digital files. Digital prepress production methods, sustainable design and production practices will be emphasized.

GDES 236   Electronic Production* (3 Hours)
Prerequisites : GDES 230 and GDES 231 and GDES 235.
This course is a continuation of the Production Methods course, providing experience in digital prepress, electronic production techniques and digital media asset types. Challenges of production complexity will be solved as students gain knowledge with a variety of visual assets asked of a professional designer. Preparation and creation of files for publication, interactive graphics, and responsive mobile platform will be explored.

GDES 244   Communication Systems* (3 Hours)
Prerequisites : GDES 230 and GDES 231 and GDES 235.
This course is focused on developing an organization's visual identity through an understanding of the target audience and competitive landscape. A range of identity elements are developed and used in creating specific touchpoints across a variety of media. A comprehensive Brand Identity using traditional and digital methods is a result of this course.

GDES 245   Advanced Design Practice* (3 Hours)
Prerequisites : GDES 230 and GDES 231 and GDES 235.
This course will focus on the use of the student's total design capability and technical knowledge in solving graphic design problems of professional scope and complexity. Students will have the opportunity to work with three art directors and produce three professional projects for potential inclusion in their portfolios.

GDES 272   Professional Preparation* (3 Hours)
Prerequisites : GDES 230 and GDES 231 and GDES 235.
Corequisites: GDES 236 and GDES 244 and GDES 245.
This course will provide graphic design majors instruction in the organization and presentation of his or her work in a portfolio format of professional quality. A portfolio, digital portfolio archive, self promo, resume and business ensemble will be produced. Instruction in interviewing techniques and employment searches will also be provided.

GDES 275   Graphic Design Internship* (1 Hour)
Prerequisites : Department approval.
Students will work in an approved training situation under instructional supervision. The internship is designed to give the student the opportunity to use the skills learned in the graphic design program. Student interns will complete a minimum of 180 hours on the job and will be compensated with at least the minimum hourly wage.

GDES 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Health Care (HC)

Courses

HC 101   Introduction to Health Care Delivery (3 Hours)
This course is an introduction to the health care delivery system with an overview of health careers and the roles and responsibilities of members of the health care team. Emphasis will be on how to work within a health care team, effective communication skills, professional safety and workplace skills, and legal and ethical rights and responsibilities of patients and health care workers.

HC 125   International Awareness Field Study (2 Hours)
This is a service-learning course. While partnering with a not-for-profit agency, teams of students will deliver service to a community in a developing country that suffers from extreme poverty. The service provided will vary depending on the identified needs of the community. While serving in the developing country, students will gain an understanding of the culture, language and health status of the people. Students will be exposed to the social, political and economic aspects of life that shape the community. Prior to travel, students are required to attend preparation meetings, fund raise and participate in a local service project. 16 hrs. lecture, 40 hrs. field study.

HC 130   Medical Terminology for Healthcare Professions (3 Hours)
This course will introduce the student to a systematic method for learning, understanding and applying medical terminology. The course will provide an overview regarding the development of medical terms and will outline medical terminology pertaining to each of the body systems, selected illnesses, diagnostic procedures and pharmacology. This course is designed for the student who is interested in any facet of the healthcare industry and is a required course for several certificate programs. Some portions of this course will require computer utilization and independent online work. There will be two to three mandatory meet times per week.

Health Care Info Systems (HCIS)

Courses

HCIS 225   Healthcare Data Analytics (2 Hours)
This course presents data analytics focused on the key needs of healthcare. Data analytics has been defined as the extensive use of data, statistical and quantitative analysis, explanatory and predictive models, and fact-based management to drive decisions and actions. Although the focus of health IT in recent years has been on electronic health record (EHR) implementation and capturing and sharing of data, work in the future will shift to putting that data and information to use improving individual health and healthcare delivery. As the quantity and complexity of healthcare data grow through EHR data capture, genomics and other sources, the number of facts per clinical decision will increase, requiring increasing support for those making decisions.

HCIS 235   Care Coordination and Interoperable Health IT Systems (2 Hours)

This course discusses care coordination as deliberate organization of patient care activities between two or more participants involved in a patient's care (including the patient) to facilitate the appropriate delivery of healthcare services. This course provides an overview of interoperable health information technology (IT) that is patient-centered making the right data available to the right people at the right time, across products and organizations, in a way that can be relied upon and meaningfully used by recipients. The ability to seamlessly share health information is essential to building a patient-centered, interoperable health IT ecosystem in the United States, thus facilitating coordination of care.

HCIS 245   Population Health (2 Hours)

This course discusses the role of health information technology (IT) and emerging data sources in deriving population health solutions and explains their application in the context of population health management.

HCIS 255   Technology Concepts and Cybersecurity in Healthcare (2 Hours)

This course provides a basic overview of computing concepts related to the healthcare sector. Topics include computing terminology, computer architecture, cybersecurity and networking and data communication. The design and development of a large healthcare computing system is discussed, including the electronic health record. 2 hrs. lecture/wk.

HCIS 262   Customer Service in the Health Environment (2 Hours)

This course introduces the skills necessary to communicate effectively across the full range of roles that will be encountered in healthcare and public health settings. Appropriate customer service skills, effective written and oral communication, and ethical and cultural awareness are emphasized. 2 hrs. lecture/wk.

HCIS 263   Working with Health Information Technology (HIT) Systems (2 Hours)

This course is powered by Cerner architecture to give students an opportunity to work with real technology used in the healthcare environment. This course focuses on the end user experience with emphasis also placed on standards, system usability, security and integration. 2 hrs. integrated lecture/lab/wk.

HCIS 264   Configuration and Implementation of Electronic Health Records (2 Hours)

This course is powered by Cerner architecture to give students an opportunity to experience real-world tasks in the role of a configuration/implementation analyst in the health information technology (HIT) workplace. This course focuses on designing and building a system with emphasis placed on implementation and configuration. 2 hrs. integrated lecture/lab/wk.

HCIS 265   Installation and Maintenance of Health IT Systems (2 Hours)

This course is powered by Cerner architecture to give students an opportunity to experience real-world tasks typically performed by an electronic health record (EHR) system administrator or support technician. Topics include testing prior to implementation, system configuration and system support. 2 hrs. integrated lecture/lab/wk.

HCIS 267   EHR Design, Functionality and Usability (3 Hours)

This course discusses human factors associated with designing and implementing health information systems. Concepts of usability and the effects of new technology and workflow redesign on downstream processes, such as clinical decision support, will be covered. This course provides an overview of the most utilized electronic health systems. System features are evaluated and compared as they would relate to practical deployments. Key factors such as cost, licensing and staffing are also discussed.

HCIS 270   Health Information Systems Internship* (2 Hours)

Prerequisites : Department approval.

Students will work in an approved training situation under instructional supervision. The internship is designed to give the student the opportunity to use the knowledge and skills acquired in the healthcare information systems (HCIS) courses. An average of 40-60 onsite hours will be required along with class assignments for a total of 90 hrs./semester.

HCIS 271   The Culture of Healthcare (2 Hours)

This course introduces students to job expectations in healthcare settings. Topics also include the organization of care inside a practice setting, privacy laws, the changing environment of healthcare delivery, and professional and ethical issues. 2 hrs. lecture/wk.

HCIS 272   Terminology in Health Care Settings (2 Hours)

This course introduces students to terminology and clinical procedures associated with body systems. It also covers terminology related to health information management (HIM), health information technology (HIT), and public health. 2 hrs. lecture/wk.

HCIS 273   Quality Improvement in Healthcare (2 Hours)

This course introduces the concepts of health information technology (IT) and practice workflow redesign as instruments of quality improvement (QI). Students will learn methods to establish a culture that supports increased quality and safety in healthcare and be introduced to the principles of value-based care and patient engagement. Approaches to assessing patient safety issues and implementing quality management and reporting through electronic systems will be discussed.

HCIS 274   Healthcare Workflow Analysis and Redesign (2 Hours)

This course introduces healthcare workflow analysis and redesign as a necessary component of complete practice automation. The topics of process validation and change management are also covered. 2 hrs. lecture/wk.

HCIS 277   Training and Instructional Design (2 Hours)
This course provides participants with essential knowledge and skills to deliver training to adult learners implementing electronic health records (EHRs) in a variety of healthcare settings. The Instructional Systems Design (ISD) model, which includes analysis of the learner and learning environment, design and development of customized education, implementation of the training plan and evaluation of the training program's effectiveness, will be used. 2 hrs lecture/wk.

Health Care Interpreting (HCI)

Courses

HCI 110   Introduction to Interpreting* (3 Hours)
Prerequisites : Selective admissions approval.
Corequisites: HCI 120.
This course provides a practical and theoretical introduction to the field of bilingual interpreting. Students will study interpreter roles and skills, modes of interpreting and translating, ethical issues, professional standards of practices, cultural competence and applied linguistics. Upon completion, students should have a strong foundation of knowledge regarding the profession of interpreting and should be ready for specific skills training. This course is taught in English.

HCI 120   Interpreting Skills I* (3 Hours)
Prerequisites : Selective admissions approval.
Corequisites: HCI 110.
This course develops students' skills in sight translation and consecutive interpreting. Listening and memory skills, communication strategies and intervention techniques also are emphasized. Upon completion, students should be able to sight translate short written texts and consecutively interpret non-technical, interactive messages between Spanish and English. This course is taught in English with some Spanish terminology and practice.

HCI 130   Interpreting Skills II* (3 Hours)
Prerequisites : Selective admissions approval and HCI 110 with a grade of "C" or higher and HCI 120 with a grade of "C" or higher.
Corequisites: HCI 140.
This course develops students' skills in simultaneous interpreting and written translation. In addition, through classroom, lab and field experiences, students practice the three interpretation modes they have learned in the program and improve all aspects of their interpreting while forming good professional habits. Self-assessment, professional growth, and development of a personal philosophy of interpreting are stressed. This course is taught in English with some Spanish terminology and practice.

HCI 140   Spanish Medical Interpreting* (3 Hours)
Prerequisites : Selective admissions approval and HCI 110 with a grade of "C" or higher and HCI 120 with a grade of "C" or higher.
Corequisites: HCI 130.
This course develops the knowledge, techniques and practices needed to function as a bilingual interpreter in a medical environment. Students will be introduced to basic medical conditions, procedures, courses of treatment and equipment, with vocabulary and terminology in both English and Spanish. Upon completion, students should be able to apply medical interpreting and translating techniques in a variety of healthcare settings. This course is taught in English with some Spanish terminology.

HCI 180   Medical Interpreting Practicum* (2 Hours)
Prerequisites : Selective admissions approval and HC 130 with a grade of "C" or higher and HCI 130 with a grade of "C" or higher and HCI 140 with a grade of "C" or higher.
Prerequisites or corequisites: HC 101 with a "C" or higher.
Students will observe and interpret at assigned medical facilities, participate in organized class discussions about their interpreting experiences and develop a personal philosophy of interpreting. Both classroom meetings and fieldwork are required for this class.

HCI 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Health Occupations (AVHO)

Courses

AVHO 102   Certified Nurse Aide (CNA) (5 Hours)
This course provides classroom and clinical instruction for the primary care of clients in long-term and acute-care facilities. Students learn skills for daily hygiene, bedside care, vital sign measurement, positioning and safe transfer of clients. The class prepares and schedules the student to take the Kansas CNA examination. 96 total contact hrs.

AVHO 103   Certified Nurse Aide Refresher Course (CNA-R)* (1 Hour)
Prerequisites : Kansas CNA Certification and department approval.
This 21-hour CNA refresher course provides classroom and laboratory experience to update the inactive CNA. The student will discuss the nurse aide's responsibility in the current health care system and the importance of resident rights. The student will demonstrate safety measures, infection control procedures, personal care skills, measurement of vital signs and transfers, positioning and turning. 21 contact hours.

AVHO 104   Certified Medication Aide (CMA)* (4 Hours)
Prerequisites : Completion of JCCC placement requirement, proof of Kansas CNA certification, a current TB skin test within the last year with negative results, current CPR for Health Care Providers documentation and a Social Security card.
This course includes the development of knowledge related to many commonly prescribed medications. Students will learn the classification, side effects and techniques of administration, including preparation and accurate distribution of medications. Safe administration of oral medications is discussed and demonstrated. Students will be scheduled to take the Kansas CMA examination. 80 contact hrs.

AVHO 106   Home Health Aide (HHA)* (1 Hour)
Prerequisites : An appropriate reading placement test score, proof of Kansas CNA certification, a current TB skin test within the last year with negative results, current CPR for Health Care Providers documentation and a Social Security card.
This course provides the student with information necessary for nutritional meal planning, task modification, emotional support and personal service to clients and families needing healthcare assistance at home. Students will be scheduled to take the Kansas HHA certification examination. 21 contact hrs.

AVHO 108   Certified Medication Aide Update (CMA-U)* (1 Hour)
Prerequisites : Proof of Kansas CMA certification and Proof of Kansas CNA Certification.
This course meets the continuing education requirements for licensed Certified Medication Aides. The course includes review of commonly used drugs and their interactions with foods and other drugs. Also included are discussions of legal implications and regulations related to administration and record keeping, biological effects of medications on the elderly and a review of basic safety principles. 15 contact hours.

AVHO 115   IV Therapy for LPNs* (3 Hours)
Prerequisites : Proof of Kansas LPN licensure, personal liability insurance at the time of application for admission to the program and maintain it throughout the clinical practicum, maintenance of current CPR certification for the duration of the course, evidence of negative TB test or chest X-ray within the past year, and JCCC Student Professional Liability Insurance.
This course provides review of basic physiology of the circulatory system and instruction in principles of site selection for veins appropriate for IV therapy. This course meets the Kansas requirements for LPNs seeking certification in IV Therapy. 48 contact hrs.

Heating,Vent.,Air Conditioning (HVAC)

Courses

HVAC 105   HVAC Fundamentals* (4 Hours)
Prerequisites : Department approval.
This is a beginning course in heating, ventilation and air conditioning technology that is appropriate for HVAC students. Upon successful completion of this course, the student should be able to identify the basic components of an air-conditioning system. Topics will include heat laws, refrigerants, oils and refrigeration cycles. In the lab, students will design, assemble and operate a working refrigeration system. Competencies will include brazing, wiring, evacuating and charging a system.

HVAC 110   Electrical Fundamentals* (4 Hours)
Prerequisites : Department approval.
This course is in electrical theory and is required for HVAC. Common electrical components found in the HVAC industry are used to develop these skills. Upon successful completion of this course, the student should be able to identify electrical components and their relationships to the various repair and troubleshooting techniques.

HVAC 136   Heating System Fundamentals* (3 Hours)
Prerequisites or corequisites: HVAC 105 and HVAC 110.
Upon successful completion of this course, the student should be able to identify all the components and accessories in residential heating systems. Emphasis will be on the electrical diagrams and mechanical principles. Practical instruction in service diagnostic procedures for efficient operation, maintenance and troubleshooting of these systems make up the lab portion of the course.

HVAC 164   EPA 608 Refrigerant Management* (1 Hour)
Prerequisites : HVAC 105 and HVAC 110.
The student should have a complete understanding and knowledge of the characteristics of several different types of refrigerants and the correct usage. Upon completion of this course, the student should be able to pass the examination set forth by a third-party testing facility.

HVAC 165   410-A Refrigerant Management* (1 Hour)
Prerequisites : HVAC 105 and HVAC 110.
Upon completion of this course, the students should be able to understand nuances of new refrigerants on the market. The student should have a complete understanding and knowledge of the characteristics of R-410-A. Upon completion of this course, the student should be able to pass the examination set forth by a third-party testing facility.

HVAC 167   Sheet Metal Layout and Fabrication* (3 Hours)
Prerequisites or corequisites: HVAC 105 and HVAC 110.
Upon successful completion of this course, the student should be able to identify the components, equipment and operation for sheet metal layout and fabrication. Practice problems are included at the end of each unit in order to provide the student with an opportunity to apply the methods attained by sheet metal layout. Shop facilities are available. The patterns will be fabricated and joined into a line of fittings. This gives the most complete test of pattern accuracy and also provides the experience needed by a competent layout person. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment.

HVAC 188   Load Calculation and Duct Design* (3 Hours)
Prerequisites : HVAC 105 and HVAC 110.
Upon successful completion of this course, students will be able to perform a load calculation for residential HVAC applications. The student should be able to determine proper sizing of residential HVAC equipment and ductwork to meet the requirements for high-quality climate control system. The students will use the Air Conditioning Contractors of America (ACCA) Manual J and current industry recognized manufactures data to determine the correct size of the HVAC equipment used in a residential applications.

HVAC 202   Cooling Systems* (4 Hours)
Prerequisites : HVAC 105 and HVAC 110.
Upon successful completion of this course, the student should be able to identify all the components and accessories and their relationship to the functions of residential and commercial air conditioning and heat pump systems. Topics covered will include air conditioner condensing units, metering devices, evaporation coils and refrigerants.

HVAC 220   HVAC Trade Certification Review* (2 Hours)
Prerequisites : HVAC 105 and HVAC 110.
This course will prepare students to take one of the main HVAC industry standard certification North American Technician Excellence (NATE) test, which will consists of the core fundamentals of HVAC, gas heating, air conditioning and heat pumps.

HVAC 231   HVAC Rooftop Units* (3 Hours)
Prerequisites : HVAC 105 and HVAC 110.
Topics will include electrical controls and economizers of various rooftop units, roof curbs, installation, service, diagnosis, evacuation and charging of typical light commercial rooftop units. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment.

HVAC 251   HVAC Installation and Start-up Procedures* (4 Hours)
Prerequisites : HVAC 105 and HVAC 110.
Upon successful completion of this course, the student will be able to identify techniques and procedures to install new systems and retrofit systems. Topics include initial start-up, maintenance of furnaces and air conditioners, electrical requirements, permits and inspections, combustion air, sheet metal and applying mechanical standards.

HVAC 275   HVAC Code Review* (3 Hours)
Prerequisites : HVAC 105 and HVAC 110.
This course is for the use and interpretation of the current International Mechanical Code (IMC). Upon successful completion of this course, the student should be able to interpret and apply the Code to HVAC applications.

HVAC 278   Advanced Electrical Systems* (3 Hours)
Prerequisites : HVAC 105 and HVAC 110.
Upon successful completion of this course, students will be able to understand and apply advanced electrical theory consisting of wiring gas and electric furnaces, air conditioners and heat pumps. This class will develop diagnostic skills associated with common heating and cooling problems found in the HVAC trade. The students will be able to examine advanced electrical wiring diagrams, understand the sequence of operations for the HVAC equipment and conduct troubleshooting methods. Control theory as applied in Direct Digital Control (DDC) HVAC systems will also be examined.

HVAC 280   HVAC Internship* (1-3 Hour)
Prerequisites : Department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work environment. The internship will provide the students with an on-the-job experience under the supervision of industry professionals. The work will be developed in cooperation with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals in the HVAC field. Minimum 15 hrs. per week on-the-job training. This is a repeatable course and may be taken more than once for credit.

History (HIST)

Courses

HIST 120   Local and Kansas History (3 Hours)
This survey course introduces students to the history of the region that is today the state of Kansas, from approximately 900AD to the present. This course will examine the cultures, economies, politics, and relationships with the natural environment of the various peoples who have inhabited what we now know as Kansas. In addition, students will learn about the complex relationships between the many peoples who have lived in Kansas.

HIST 125   Western Civilization: Ancient World to the Renaissance (3 Hours)
This survey course introduces students to major developments, ideas, and personalities that have shaped institutions and practices in the Western world to approximately 1500. Students will analyze and discuss the Ancient Near East, Greek and Roman civilizations, the rise of Western Christendom, and the emergence of the Renaissance. It is not necessary to take HIST 125 before HIST 126.

HIST 126   Western Civilization: Scientific Revolution to the Modern Age (3 Hours)
This survey course introduces students to major developments, ideas, and personalities that have shaped institutions and practices in the Western world since approximately 1500. Students will analyze and discuss transoceanic exploration, religious reformations, Scientific Revolution, constitutionalism, industrialization, and more recent themes of the 20th and 21st centuries. It is not necessary to take HIST 125 before HIST 126.

HIST 128   Medieval History (3 Hours)
This survey course introduces students to major developments, ideas, and figures of the medieval world. Students will analyze and discuss the fall of the Roman Empire, the rise of Western Christendom, the effects of Viking raids, medieval warfare, the Crusades, and the devastation of the Black Death.

HIST 129   Early Modern Europe 1500-1789 (3 Hours)
This course is an introduction to early modern European history, with emphasis on the economic, social and political developments that have shaped the modern world: the Renaissance; the Catholic and Protestant Reformations; the rise of nation-states; the new inter-cultural contact between Europe and the world; the Commercial Revolution and the Enlightenment.

HIST 130   European History Since 1789 (3 Hours)
This course covers the major political, intellectual, and economic and social developments in Europe from the end of the 18th century to the present, including modern political ideologies, major wars, the growth of strong governments, the effect of modern science on social and political thought, the Industrial Revolution, the creation of large middle classes and the effect of modern technology.

HIST 132   History of Africa (3 Hours)
This course introduces students to the history of Africa until the present. It emphasizes the fundamental characteristics and long-term developments in the evolution of African political and socioeconomic institutions.

HIST 135   Eastern Civilization (3 Hours)
This survey course introduces students to the societies, cultures, institutions, and geographic and environmental features of India, China, Japan and Korea. Students will analyze and describe early settlements, mythology, the development of centralized governments, major dynasties, philosophies, religions, and areas of popular culture.

HIST 137   African American History (3 Hours)
This course surveys the major themes and developments in African American culture and history from colonialism to the present. Topics will include Africa prior to the slave trade; American enslavement, resistance, and emancipation; racial segregation and the civil rights movements; urbanization; and African American arts and literature. Emphases will be on the analysis and interpretation of these developments.

HIST 140   U.S. History to 1877 (3 Hours)
This survey course in U.S. history will emphasize developments and trends in American society from the early period of discovery and settlement through Reconstruction. Topics will include the Colonial era, the Revolutionary period, the Federalist era, the expansion of the Republic during the mid-19th century, and the Civil War and Reconstruction. The emphasis will be on analysis and interpretation of these developments.

HIST 141   U.S. History Since 1877 (3 Hours)
This survey course will introduce students to developments and trends in American society from the late 1870s to the present. Topics will include the Reconstruction era, industrialization, immigration, reform movements, wars, social and cultural trends, and foreign policy. Emphasis will be on analysis and interpretation of these developments.

HIST 143   Ancient Greece, the Near East and Egypt (3 Hours)
This course will present the background to the rise of Ancient Greece by examining first its Near-Eastern and Egyptian predecessors. Then it will examine Greece's historical development from the early Aegean phase through its Dark, Archaic, classical and Hellenistic phases. In addition to political, military, and social and economic developments, Greek literature and art will also be highlighted.

HIST 145   History of Ancient Rome (3 Hours)
This course will cover Roman civilization and history from its emergence until the fifth century C.E. In addition to political, military, and social and economic developments, Roman literature and art will also be highlighted. Rome's significance for later western civilization will be noted.

HIST 149   History of India (3 Hours)
This survey course is an introduction to the history of India. The course examines Indian cultures and civilizations from the ancient Indus River Valley Civilization to the present nation-state of India. This course evaluates literature, art, architecture and other forms of cultural aesthetics as well as political, economic, and religious developments.

HIST 150   Islam: Religion and Civilization (3 Hours)
This course covers the context in which Islam arose; the career of the Prophet Muhammad; the main teachings and practices of the religion; the Qur'an and other early Islamic literature; subsequent political developments in the religion and its spread; its main religious branches; its history during the Middle Ages; the Christian crusades and their consequences; the major components of Islamic civilization, including law, the arts, literature, philosophy, science, and mathematics; Sufi; the effects of Western imperialism upon Islamic states; major developments in Islamic thought and practice since the seventeenth century; the Islamic diaspora and Islam today. HIST 150, HUM 150 and REL 150 are the same course; enroll in one only.

HIST 151   World History: Traditional (3 Hours) ⛶
This survey course introduces students to major trends and developments in world history to approximately 1500. Students will analyze and describe the beginnings of civilization throughout the world, the formation of classical cultures, the increasing interconnectedness of Afro-Eurasia, the Americas, and Oceania, as well as the broad social, political, and cultural developments of the world's major civilizations.

HIST 152   World History: Modern World (3 Hours) ⛶
This is a survey course that introduces students to major trends and developments in world history since approximately 1500. Students will analyze and describe globalization, the rise and fall of empires, transformations from kingdoms to nation-states, industrialization, and broad social, political, and cultural changes and continuities in the Americas, Africa, Asia, Europe, and Oceania.

HIST 160   Modern Russian History (3 Hours)
This course examines Russian history within a Eurasian context. It is a study of three centuries of the social, political, economic and cultural forces that shaped Russian history, beginning with a survey of the events that place Russia outside the Western historical tradition.

HIST 162   Modern Latin America (3 Hours)
This course is an examination of the economic, social, political and cultural history of Latin America since independence. Regional identities, such as Central America, and independent national states, such as Cuba and Mexico, are explored. Literary and intellectual trends, together with contemporary popular culture, are featured in the course.

HIST 165   History of China (3 Hours)
This course will survey the history of China from its Neolithic origins until the twenty-first century by examining major overall themes, including political and military developments, social formations cultural trends and China's role in the larger world.

HIST 167   Introduction to History: Japan (3 Hours)
This survey course in Japanese history emphasizes developments and trends from the prehistoric period to the 21st century. Topics include Heian court culture, developments in Japanese Buddhism such as Zen, the rise of the samurai and the Shogunate, Japanese pirates, the wars of the Sengoku Period, Tokugawa governance and culture, the Meiji Restoration, Japan in World War Two, and modern Japanese culture.

HIST 180   North American Indian History (3 Hours)
This survey course introduces students to developments and trends in the history of Indigenous peoples (also known as American Indians and Native Americans) in North America from the emergence of human life on the continent through the present. Topics include Indigenous life prior to European migration, colonialism, adaptation and resistance to European and United States expansion, and sovereignty.

HIST 195   History of the Middle East (3 Hours)
This survey course introduces developments and trends in the history of the Middle East and northern Africa. Topics include the origins and development of Judaism, Christianity, and Islam; western colonialism; the rise of the modern nation-state; and contemporary challenges. Emphases will be on analysis and interpretation of these developments.

HIST 200   Eurasia: History and Cultures (3 Hours)
This course is an interdisciplinary introduction to the rich diversity of the often marginalized civilizations and tribal peoples that inhabit the Caucasus and Central Asia. Students will examine the ethnic, social, economic, religious, artistic and geopolitical influences shared by the inhabitants of these regions. The indigenous sedentary and nomadic populations located along the Silk Road and Eurasian Steppe were repeatedly subjected to conquest by the superior military powers that competed for domination of these trade arteries. Students will trace the succession of cultural influences that swept over the areas. Students will conclude their study with an examination of the post-Soviet development of these regions, investigating how these peoples define themselves within the modern nation-state system.

HIST 210   Environmental History of North America (3 Hours)
This course will introduce students to the environmental history of North America as well as Environmental History as a distinct sub-field of History. Students by the end of this course should be able to more clearly see connections between what they would previously have considered history and the natural systems that made that history possible. By taking an explicitly interdisciplinary focus, this course will bring fresh insights to familiar historical narratives.

HIST 250   American West (3 Hours)
This survey course introduces students to the history of the western region of the United States. Topics include the indigenous nations of the West; the efforts of settler societies to colonize and extract resources; contemporary economic, environmental, and political challenges; and the West of myth as told through film and literature. Emphases will be on the analysis and interpretation of these developments.

HIST 260   Women in U.S. History (3 Hours)
This course examines how the experiences of women have shaped United States history. Coursework will investigate the construction of gender; intersections of race, ethnicity, class, sexuality and identity with gender; women's work (paid and unpaid); politics and reform; and changing gender roles. Special attention will be paid to the divergent experiences and perspectives of diverse women in order to expand cultural understanding.

HIST 270   History Internship* (3 Hours)
Prerequisites : Department approval.
Students augment their academic course work with an internship in an appropriate setting under instructional supervision. Internship projects are cooperative efforts between appropriate supervisors in state, local or national museum or research facilities or other not-for-profit organizations and college staff and students. Internships give students the opportunity to participate in the real-world application of their academic studies. In addition, this synthesis of classroom study with practical experience provides students with skills and insights useful in selecting a career or avocation in community service. The student spends the equivalent of 10 hours per week performing internship duties over the course of the semester or a total of 150 hours.

HIST 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

HIST 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the study of history, not usually taught in the curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Honors Program (HON)

Courses

HON 100   Honors Seminar: Becoming a Scholar* (1 Hour)
Prerequisites : Department approval.
The honors seminar introduces students to new approaches to knowledge construction and experience what it means to engage critically and creatively in its production. Students explore the many ways in which honors education allows them to think outside of the box and to the supportive environment that empowers them to forge their unique path forward. It will also equip them with the tools to ask hard questions, begin to find answers, develop a tolerance for uncertainty and take on the task of knowledge construction as they embrace the identity of scholar.

HON 170   Honors Contract* (1 Hour)
Prerequisites : HON 100 with a grade of "B" or higher.
The Honors Contract provides an opportunity for students to personalize their learning in a course and formally engage in undergraduate research. Students will be mentored by a faculty in a particular discipline by focusing on a topic of unique interest to the student but closely associated with the theme of the course it is enhancing. The honors contract always exceeds the course's goals and scope and draws from honors courses that students have completed prior to their enrollment. Students will especially build upon the research literacy skills introduced in the Honors Seminar to develop a project informed by research. They will refine their ability to observe, synthesize information and reflect while making sense of a problem they have identified by engaging with the scholarship in the discipline of choice. Students will develop a greater understanding of issues identified in collaboration with the faculty mentor to enhance their learning as well as their peers' learning. This is a repeatable course and may be taken more than once for credit.

HON 205   Introduction to Research Methods* (1 Hour)
Prerequisites or corequisites: HON 100 or Department approval.
The honors course introduces students to research methods in a given field or area of research in preparation for lifelong inquiry. Students will explore essential research language, refresh their research literacy skills, refine their ability to ask research questions, to test the validity of existing research and discuss ethical questions stemming from academic inquiry.

HON 270   Honors Forum:* (3 Hours)
Prerequisites or corequisites: HON 100 with a grade of "B" or higher.
The Honors Forum provides an interdisciplinary approach to contemporary problems as they emerge locally, nationally or globally. Students will be exposed to diverse modes of inquiry in order to consider these problems from multiple angles. The Honors Forum draws from honors courses that students have completed prior to their enrollment. Students will develop a greater understanding of each issue and acquire the ability to develop an evidence-based argument regarding the topic under scrutiny. In this course students will build upon the research literacy skills introduced in the Honors Seminar, such that they demonstrate proficiency in the selection and use of academic databases, as well as the ability to incorporate in their argument the analysis of at least one primary source. This is a repeatable course and may be taken more than once for credit.

HON 291   Independent Study* (1-7 Hour)
Prerequisites : 3.5 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

HON 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of honors pedagogy not usually taught in the curriculum to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Horticulture (HORT)

Courses

HORT 115   Home Horticulture (2 Hours)
This course provides basic knowledge for the design and management of home lawns, flower and vegetable gardens, and landscape trees and shrubs. Students will learn basic plant anatomy and physiology concepts; how to recognize some common plant deficiency symptoms; the use of fertilizers and pesticides; identification of some common trees, shrubs and garden plants; and the major considerations of good landscape design.

HORT 135   Landscape Design (3 Hours)
The course is designed to familiarize students with aspects of landscape design. Students will analyze the site and preferences of the client and complete a landscape design following basic design principles. Students will learn presentation graphics, hand lettering techniques, and how to make a hand drawing to scale.

HORT 140   Turfgrass I (3 Hours)
The basics of turfgrass identification, selection, use and care will be covered. The emphasis will be on efficient management of soil and turf on large or small grounds. Upon successful completion of this course, students should be able to demonstrate their ability to properly identify the major categories of turfgrass; establish and maintain turfgrass; identify turfgrass pests; and develop a pest control fertilizer program. Irrigation systems, their maintenance and repair will also be discussed.

HORT 150   Fruits, Vegetables and Herb Crops (2 Hours)
This course is designed to familiarize garden center employees with the plant materials and production of crops many homeowners use and grow. This course will help the employee answer many homeowner questions about production, varieties and potential crop problems. Home hobbyists may also wish to enroll in this course.

HORT 160   Garden Center Operations (3 Hours)
This course is designed for garden center employees and provides background on the elements necessary for success in a competitive retail environment. The business organization is emphasized, including environmental monitoring, selling, inventory issues, merchandising, advertising, cost effectiveness, labor/team relationships and customer service. In addition, safety and legal issues are examined.

HORT 165   Arboriculture (3 Hours)
This course will prepare the student to work with trees in Zones 5-6. In lecture and lab settings students will learn and demonstrate how to properly plant, prune and maintain trees, identify hazard trees and proper pruning and tree removal techniques. Emphasis will be placed on ANSI and OSHA safety requirements. At the end of this course the student will be prepared to take the test for arboriculture certification in Kansas.

HORT 201   Introduction to Horticultural Science (4 Hours)
This is an introduction to the principles and practices of horticultural plant systems. Plant structure and function will be discussed, along with the effects of environmental factors on plant growth. General cultural practices will be described, including pest control, mineral nutrition and plant propagation.

HORT 205   Plant Propagation* (3 Hours)
Prerequisites : HORT 201 or department approval.
This course provides basic knowledge of the art and science of sexual and asexual methods of propagating plants. Students study the processes of seed development, seed dormancy, germination, root initiation and grafting. Students will learn basic seed sowing, cutting and grafting skills. The students will be able to demonstrate the selection of appropriate propagation methods and choose the proper environmental conditions necessary to achieve successful propagation of seeds or cuttings.

HORT 214   Woody Plants, Deciduous (3 Hours)
The class places emphasis on identification, ornamental characters, site requirements, and use of woody ornamental deciduous trees and shrubs with special emphasis on the cultivated varieties in climatic zones 5 and 6. Plant uses and seasonal effects and influences that affect plant choices will be also be taught. This course will assist the horticulturist, grounds maintenance employee, landscaper, and garden center employee in identifying plant materials used in the landscape.

HORT 215   Woody Plants, Evergreens (3 Hours)
This course places emphasis on identification, ornamental characteristics, site requirements and use of evergreen trees and shrubs with special emphasis on the cultivated varieties in climatic zones 5 and 6. Plant uses and seasonal effects and influences that affect plant choices will be taught. This course will assist the horticulturist, grounds maintenance employee, landscaper and garden center employee in identifying plant materials used in the landscape.

HORT 220   Herbaceous Plants (3 Hours)
This course will focus on the identification, ornamental characters, culture, propagation, and use of herbaceous perennials, bulbs, ground covers, vines and annuals. This course will assist the grounds maintenance employee, landscaper, and garden center employee in identifying and selecting herbaceous plant materials with additional emphasis on uses and maintenance of these plants when used in the landscape.

HORT 225   Plant Problems* (3 Hours)
Prerequisites : HORT 214 and HORT 220 or department approval.
This course is a broad-spectrum overview of plant insects, diseases and nutrition. Students will look at plants to identify the common characteristics found when diagnosing plant problems. Identification, treatment and treatment alternatives will be considered to help customers make diagnostic decisions for the use of chemicals and integrated pest management techniques (IPM).

HORT 235   Landscape Maintenance and Techniques (3 Hours)
This course is designed to familiarize students with the principles and techniques involved in landscape maintenance including pruning techniques, fertilization, irrigation, spray schedules and weed control. Installation and maintenance of annual and perennial plant material is examined. In addition, the student will learn to design preventive strategies and identify and examine disease and insect damage. The students will learn how to maintain good customer relations.

HORT 240   Turfgrass II* (3 Hours)
Prerequisites : HORT 140.
This course is a continuation of turfgrass I (HORT 140). Topics include green construction, top dressing, sprayer calibration, management programs (e.g., setting up a lawn care program) and the influence environment has on turfgrass growth.

HORT 255   Pest Management (3 Hours)
This course will explore the general concepts of turf, ornamental, commercial crop and vegetable garden maintenance and pest control in the local area. The student will become familiar with federal and state regulations pertaining to horticulture chemical application. Upon completion of this course, the student should be prepared to take the Kansas or Missouri licensing examination to become a certified applicator of restricted horticultural pesticides and herbicides.

HORT 260   Horticulture Soils (3 Hours)
This course covers soil components as well as the physical, chemical and biological properties of soils that affect plant growth. Emphasis will be placed on horticultural substrates and urban soils and their applications.

HORT 265   Landscape Construction (3 Hours)
This course will cover the theories, principles and practices used in the interpretation and implementation of landscape construction. It will include site planning and preparation, safety principles, tool use and identification, landscape and construction materials, job bid development and project management. Construction projects in the class will vary by semester.

HORT 270   Horticulture Internship* (3 Hours)
Prerequisites : Department approval.
Student should be able to apply classroom knowledge to an actual work situation. The internship will provide students on-the-job experience under the supervision of professionals in the Horticultural industry. The work will be developed cooperatively with area employers, college staff and each student to provide a job experience in the area of their horticultural focus and career goals. 20 hrs field study.

HORT 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Hospitality Management (HMGT)

Courses

HMGT 100   ACF Junior Culinarian (3 Hours)
The American Culinary Federation Education Foundation (ACFEF) offers a certification for graduates of ACFEF Secondary Certified programs. Students are able to obtain a Certified Junior Culinarian (CJC) certification if they meet certain requirements.

HMGT 120   Food Service Sanitation (1 Hour)
This course covers the basic principles of providing and serving safe food. It also provides the student with safe food-handling procedures necessary to manage a sanitary and safe food service operation in compliance with the national Food Code and National Restaurant Association guidelines. The successful completion of the ServSafe Sanitation exam will result in a national sanitation certification.

HMGT 121   Perspectives of Hospitality Management (3 Hours)
This introductory course is designed to provide students with current information on topics relevant to career exploration, employment and operational specifics of the various segments of the hospitality industry. The course includes exploration of the tourism, lodging, food and beverage and related industries, along with the operational characteristics unique to each and the critical concepts of service management. The identification of current events and trends will be included along with the evaluation of impact on the hospitality industry. This course also identifies and explores career opportunities and includes the professional profiles and job search materials directly related to the hospitality industry.

HMGT 123   Professional Cooking I* (3 Hours)
Prerequisites or corequisites: HMGT 120.
This is the first of two courses in professional cooking methods for students enrolled in hospitality management programs. Upon completion of this course, the student should be able to demonstrate skills in basic cooking methods, recipe conversion, and professional food preparation and handling. Additionally, the student should be able to safely operate common food service equipment used in commercial kitchens.

HMGT 126   Food Management* (4 Hours)
Prerequisites : HMGT 123 and HMGT 230 and HMGT 277.
This course offers an overview of restaurant management practices used in the hospitality industry. Emphasis will be on demonstrating the components of menu planning and the styles of food service used for various occasions -- buffet service and French, Russian and American service. The student will participate in the operation of the campus restaurant, including food preparation, service, sales promotion, purchasing and costing.

HMGT 128   Supervisory Management (3 Hours)
This course contains the basic supervisory management skills, management styles, motivation with emphasis on human relations, delegation, training, evaluation and communication. In addition, the hiring and firing functions within FLSA guidelines will be covered.

HMGT 130   Hospitality Law (3 Hours)
This course offers an overview of product and dram shop liability as well as of the various areas of federal and state legislation that regulate the hospitality industry. Emphasis will be on familiarizing the hospitality manager with ways to avoid costly and time-consuming lawsuits. A manager's or owner's legal rights and responsibilities also will be discussed. Upon successful completion of this course, the student should be able to recognize potential legal problems.

HMGT 132   Seminar in Housekeeping Operations (3 Hours)
This course presents a systematic approach to managing housekeeping operations in the hospitality industry. The course will also include related health department and OSHA regulations. While enrolled in this class, a student must work a minimum of 15 hours a week in a lodging operation. The work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 150   Seminar: Food Service Sales and Marketing (3 Hours)
This course includes detailed information in distinguishing the difference between marketing, sales, promotion, advertising and merchandising. In addition, development and quantifying the cost of a marketing plan by analyzing markets and developing a primary target market will be discussed. This course is a seminar course, and students are required to be employed 15 hours per week in a job related to the hospitality industry.

HMGT 167   Local Food Production (3 Hours)
Upon successful completion of this course, the student should be able to analyze and explain the basic cooking methods, recipe conversion and professional food preparation and handling of local food products. Additionally, the student should be able to safely operate common food service equipment used in commercial kitchens. It will provide students with practical methods of application involved with safe handling and production of post-harvest local food products. SAG 167 is the same course as HMGT 167; enroll in only one.

HMGT 170   Value-Added Production (3 Hours)
The value of farm products can be increased by canning, cleaning, cooling, cooking, combining, churning, culturing, grinding, extracting, drying, handcrafting, packaging, and distributing. Through sourcing raw agricultural products directly from the farm, students will learn how to transform quality ingredients into higher-value products through the application of time-tested techniques thus capturing more value from their own products. In addition to learning about what certifications are needed and what safety regulations should be followed if wanting to market each category of value-added products, students will complete Better Process Control training which provides certification for producing and marketing low acid and acidified foods. Students will also learn the processes and regulations that should be followed if wanting to market home kitchen-produced value-added products such as jams, jellies, preserves, baked goods, cheese, jerky, soaps, and herbal products. SAG 170 is the same course as HMGT 170; enroll in only one.

HMGT 203   Hotel Sales and Marketing* (3 Hours)
Prerequisites : Admission to the hospitality management program and HMGT 121.
This course will focus on practical sales and marketing techniques for the hotel industry. It will cover a marketing plan and advertising campaign for a hotel, including identifying target markets, prospecting for sales leads and using sales techniques.

HMGT 207   Hospitality Human Resource Management* (3 Hours)
Prerequisites : HMGT 128.
This course will examine hospitality human resources management from the global perspective as the rise of multinational hospitality corporations and a multicultural society place new requirements on managers with human resource responsibilities. Special emphasis will be placed on both the "soft skills" involved in counseling, interpersonal relations and different management theories, as well as the "hard skills" involved in the legislative aspects of managing people. This course will concentrate on how to manage managers.

HMGT 220   American Regional Cuisine* (3 Hours)
Prerequisites : HMGT 230.
This course introduces the student to regional American cooking from nine regional culinary traditions and two specialty traditions within American cuisine. Students will study the cuisine of New England; the Mid-Atlantic states; the Deep South; Florida and the Caribbean; Cajun and Creole; the Central Plains and Rocky Mountain states; Tex-Mex and the American Southwest; California and Hawaii; the Pacific Northwest, as well as vegetarian cuisine and kosher dietary laws. Upon completion of this course, the student should be able to demonstrate skills in cooking and presenting classic American dishes in their traditional forms within a restaurant setting.

HMGT 221   Design and Facilities Management* (3 Hours)
Prerequisites : HMGT 123 and HMGT 271.
This course includes detailed information about food service design that covers layout, design and equipment specifications. In addition, facilities operations will be discussed regarding electrical, water and transportation systems; refrigeration; waste disposal; energy management; and HVAC. Preventive maintenance will be emphasized.

HMGT 223   Fundamentals of Baking (3 Hours)
This course covers bakeshop production as it relates to the basic principles of ingredients, measurements, mixing, proofing, baking and final presentation. In addition, the student will be able to identify the various types of baking equipment used in the preparation of bakeshop products. The class includes lecture and participation.

HMGT 226   Garde Manger* (3 Hours)
Prerequisites : HMGT 230.
This course is designed for the student to learn cold food production and charcuterie. The course will allow the student to develop fundamental principles of the cold kitchen and modernize traditional methods of salad preparation.

HMGT 228   Advanced Hospitality Management* (3 Hours)
Prerequisites : Department approval.
This course includes detailed information about various components of menu planning, food service, supervision, design and beverage control. In addition, an understanding of the external factors affecting the hotel-restaurant industry will be discussed. Skills necessary to secure a position in management within the hospitality industry will be emphasized, and case studies and computer simulation (HOTS) will be used for critical thinking analysis. Business plans will be developed as part of the course project.

HMGT 230   Professional Cooking II* (3 Hours)
Prerequisites : HMGT 120 and HMGT 123.
This is the second of two courses in professional cooking methods for students enrolled in hospitality management programs. Upon completion of this course, the student should be able to demonstrate advanced level skills in cooking methods, recipe conversion, and professional food preparation and handling. Additionally, the student should be able to safely operate advanced food service equipment used in commercial kitchens. This course consists of lecture, demonstration and participation in food preparation.

HMGT 231   Advanced Food Preparation* (4 Hours)
Prerequisites : HMGT 230 and department approval.
This course is designed to develop a student's advanced culinary skills in preparation of international cuisine commonly served in today's operations in Latin America, Europe, Asia, the Middle East, the Far East and the Pacific area.

HMGT 235   Seminar: Risk Management and Loss Prevention (3 Hours)
This course explains the issues surrounding the need for individualized security programs, examines a wide variety of security and safety equipment and procedures, discusses guest protection and internal security for asset protection. It explores risk management and loss prevention issues and outlines OSHA regulations that apply to lodging properties. While enrolled in this class, a student must work a minimum of 15 hours a week in a lodging operation. The work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 238   Advanced Garde Manger* (3 Hours)
Prerequisites : HMGT 226.
This course is designed for the student to learn advanced cold food production and charcuterie as well as Modern Cuisine techniques. This course will allow the student to develop advanced principles of the cold kitchen and modern cooking techniques and equipment.

HMGT 240   Advanced Baking* (4 Hours)
Prerequisites : HMGT 123 and HMGT 223.
This course covers the principles needed to enter the baking and pastry industry. The course provides knowledge of specialty ingredients and techniques needed to make tortes, finished desserts and a wedding cake. The student will be instructed in the making of these items through lecture and will prepare a variety of such items in lab.

HMGT 245   Travel for Credit* (3 Hours)
Prerequisites : HMGT 121 and department approval.
This travel-for-credit course consists of visits to restaurants, hotels, markets and food and beverage producers in an established region.

HMGT 248   Confectionery Arts (3 Hours)
This course covers the design and production of artistic centerpieces made from confections. It provides knowledge of and basic skills in making decorative dining table centerpieces using food products such as cooled and pulled sugar syrup, isomalt, pastillage, marzipan and chocolate. The student will be instructed in the preparation of these ingredients and will construct center and showpieces after viewing demonstrations.

HMGT 250   Introduction to Catering (3 Hours)
This course includes detailed information about the different types of catered events within the hospitality industry. Topics covered include the importance of marketing, contract writing, food production, room arrangements and required personnel relative to specific catered events.

HMGT 265   Front Office Management (3 Hours)
This course provides a full understanding of the flow of business from the front office, beginning with the reservations process to checkout and settlement. It also includes the night audit and statistical analysis of rates and revenue management.

HMGT 268   Hospitality Managerial Accounting* (3 Hours)
Prerequisites : MATH 120 (or higher) and HMGT 121 and HMGT 273.
This course introduces the student to basic managerial accounting. This includes accounting concepts, processing data and the flow of financial information within a hospitality operation. The course provides a working knowledge of an income statement, balance sheet, statement of owner's equity and cash flows.

HMGT 270   Meat and Fish Identification and Fabrication* (3 Hours)
Prerequisites : HMGT 226 and HMGT 286.
This course is designed for the student to learn about meat and fish identification, and fabrication of beef, veal, pork, lamb, poultry, fish and seafood.

HMGT 271   Seminar in Hospitality Management: Purchasing (3 Hours)
This course offers an overview of purchasing techniques and specification writing for commodities used in the hospitality industry. Emphasis will be on decision-making skills in the areas of quality, quantity, specifications and general value analysis. Two hours in class and a minimum of 15 hours a week are required in a supervised work situation in an approved area of the hospitality industry. Work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 273   Hospitality Cost Accounting* (3 Hours)
Prerequisites : MATH 120 (or higher) and HMGT 121.
This course includes detailed information on how to prepare operation statements for a food service operator, including inventory and control systems. Areas of concentration will be food cost controls, labor cost controls, purchasing controls and profit production. The practice set will be used to reinforce control systems.

HMGT 275   Seminar in Hospitality Management: Internship* (3 Hours)
Prerequisites : Admission to the hospitality management program.
This course provides industry experience for students in cooperating businesses, agencies and organizations. While enrolled in this course, a student must work a minimum of 320 hours in an approved position in the hospitality industry. By arrangement.

HMGT 277   Seminar in Hospitality Management: Menu Design & Planning* (3 Hours)
Prerequisites : HMGT 123 and HMGT 273.
This course provides the basic knowledge of menu design and planning. Students will learn the components of menu design and planning for each concept category. The course will cover the topics of menu layout, selection and development, price structures and the theory of menu design. A minimum of 15 hours a week is required in a supervised work situation in an approved area of the hospitality industry. Work experience is concurrent, but does not necessarily concentrate on the subject being taught in the course.

HMGT 279   Beverage Control (3 Hours)
This course covers the history of wines and their use and storage procedures. The students should gain an understanding of beverage control and how it is used in all types of operations. The course will also cover in-depth study of spirits, internal control systems and local/state alcoholic beverage control laws.

HMGT 281   Culinary Arts Practicum I* (2 Hours)
Prerequisites : Acceptance into the American Culinary Federation Chef Apprenticeship training program and hospitality management department approval.
A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation.

HMGT 282   Culinary Arts Practicum II* (2 Hours)
Prerequisites : HMGT 281.
A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum I.

HMGT 285   Culinary Arts Practicum III* (2 Hours)
Prerequisites : HMGT 282.
A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum II.

HMGT 286   Culinary Arts Practicum IV* (2 Hours)
Prerequisites : HMGT 285.
A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum III.

HMGT 287   Culinary Arts Practicum V* (2 Hours)
Prerequisites : HMGT 286.
A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum IV.

HMGT 288   Culinary Arts Practicum VI* (2 Hours)
Prerequisites : HMGT 287 and hospitality management department approval.
A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum V.

HMGT 292   Special Topics:* (3 Hours)
Prerequisites : Department approval .
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of culinary arts, not usually taught in the curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Hospitality Mgt Pastry Baking (HMPB)

Courses

HMPB 155   Pastry Shop Production I* (4 Hours)
Prerequisites : HMGT 120 and HMGT 123.
Corequisites: HMPB 160 and HMPB 233 and HMPB 252.
This course will provide hands-on instruction of techniques used to make basic pastry shop staples used in the production of items intended for retails sales in a professional pastry shop.

HMPB 160   Pastry Shop Principles I* (4 Hours)
Prerequisites : HMGT 120 and HMGT 123.
Corequisites: HMPB 155 and HMPB 233 and HMPB 252.
This course will examine the fundamental baking concepts including sanitation, ingredient identification and usage, weights and measures, inventory and product ordering needed as it pertains to a professional pastry shop. Students will be operating a working bake shop.

HMPB 233   Patisserie* (4 Hours)
Prerequisites : HMGT 120 and HMGT 123.
Corequisites: HMPB 155 and HMPB 160 and HMPB 252.
This course will provide hands-on instruction of techniques to make finished pastry items such as tortes, tarts, pastries, cookies, candies and breads as well as how to present items in a professional manner.

HMPB 252   Pastry Shop Business Basics I* (3 Hours)
Prerequisites : HMGT 120 and HMGT 123.
Corequisites: HMPB 155 and HMPB 160 and HMPB 233.
This course will provide basic hands-on techniques used to market finished pastry items, customer service, setting up, restocking and maintaining a display case, as well as taking pastry orders.

HMPB 255   Pastry Shop Production II* (4 Hours)
Prerequisites : HMPB 155 and HMPB 160 and HMPB 233 and HMPB 252.
Corequisites: HMPB 260 and HMPB 257 and HMPB 252.
This course will provide hand-on instruction of advanced techniques used to make advanced staples used in the production of advanced pastries, cakes, tarts, and tortes intended for retail sales in a professional pastry shop.

HMPB 257   Sugar Basics* (4 Hours)
Prerequisites : HMPB 155 and HMPB 160 and HMPB 233 and HMPB 252.
Corequisites: HMPB 255 and HMPB 260 and HMPB 262.
This course will provide hands-on instruction of pulled and brown sugar techniques used for garnishing advanced pastry items. The student will learn how to cook, pull, blow and store sugar pieces used in a professional pastry shop.

HMPB 260   Pastry Shop Principles II* (4 Hours)
Prerequisites : HMPB 155 and HMPB 160 and HMPB 233 and HMPB 252.
Corequisites: HMPB 255 and HMPB 257 and HMPB 262.
This course will examine the advanced baking concepts including high dollar ingredient identification and usage, storage, advanced inventory control, costing and product sources and product availability as it pertains to a professional pastry shop.

HMPB 262   Pastry Shop Business Basics II* (3 Hours)
Prerequisites : HMPB 155 and HMPB 160 and HMPB 233 and HMPB 252.
Corequisites: HMPB 255 and HMPB 257 and HMPB 262.
This course will provide advanced hands-on techniques used to market finished pastry items, execute excellent customer service, establishing operational guidelines, inventory and restocking, product ordering, product research, maintaining a display case, as well as taking pastry orders.

Humanities (HUM)

Courses

HUM 122   Introduction to Humanities (3 Hours)
This interdisciplinary study begins with a look at artistic and technical elements of several art forms, including painting, sculpture, architecture, music, theater, film, dance and literature. Major themes expressed in the works and their reflection of the values of their culture are also examined.

HUM 137   Introduction to Russian Culture (3 Hours)
This course is a survey of the cultural history of Russia from the ninth century to the present. The approach is interdisciplinary, examining representative examples of Russian art, architecture, music, theater, dance, literature and philosophy in their historical context. In addition to developing the students' appreciation of Russia's contribution to world culture, the course aims to enhance students' understanding of the contemporary world.

HUM 145   World Humanities: Ancient to Medieval (3 Hours)
This course will acquaint students with the arts and ideas of the world's major civilizations, from antiquity through the Renaissance. The approach will be interdisciplinary, covering the artistic values embodied in painting, sculpture, architecture, literature, theater, music and dance as they have emerged out of their historical contexts. In addition to providing the fundamental principles, methodologies and theories used in the study of the humanities, the course aims to enhance students' understanding of the contemporary world.

HUM 146   World Humanities: Renaissance to Modern (3 Hours)
This course will acquaint students with the arts and ideas of the world's major civilizations, from the Renaissance to the present. The approach will be both interdisciplinary and chronological, covering the artistic values embodied in painting, sculpture, architecture, literature, theater, music and dance as they have emerged out of their historical contexts. In addition to providing the fundamental principles, methodologies and theories used in the study of the humanities, the course aims to enhance students' understanding of the contemporary world.

HUM 150   Islam: Religion and Civilization (3 Hours)
This course covers the context in which Islam arose; the career of the Prophet Muhammad; the main teachings and practices of the religion; the Qur'an and other early Islamic literature; subsequent political developments in the religion and its spread; its main religious branches; its history during the Middle Ages; the Christian crusades and their consequences; the major components of Islamic civilization, including law, the arts, literature, philosophy, science, and mathematics; Sufi; the effects of Western imperialism upon Islamic states; major developments in Islamic thought and practice since the seventeenth century; the Islamic diaspora and Islam today. HIST 150, HUM 150 and REL 150 are the same course; enroll in one only.

HUM 155   Classical Mythology (3 Hours)
This course provides a systematic study of the myths and epic cycles of the Greeks and Romans in both literature and art and investigates their survival and metamorphosis in the literature and visual arts of Western Europe. In addition, this course provides several methodological frameworks with which to analyze several types of tales and their relation to history, religion, rituals and art.

HUM 156   Contemporary Approaches to World Mythology (3 Hours)
This course provides a systematic study of world mythologies, where they appear in literature and art and their survival and metamorphosis in contemporary culture. The course provides several methodological frameworks with which to analyze myths and their relation to history, religion, ritual and art. Through the study and comparison of world mythologies, students are encouraged to evaluate their own perspectives and experiences in the context of human diversity.

HUM 165   Introduction to Chinese Culture (3 Hours)
The course acquaints students with the ideas, culture, and arts of China, from its prehistory through the present day, using a thematic structure that reflects the interplay of diversity and unity that characterizes Chinese culture and history in ways that simultaneously conflict with and complement each other. The approach is interdisciplinary, examining a long tradition of philosophy and religion that permeates all aspects of Chinese life, the values embodied in various traditional and modern arts, and how nature, the environment and issues of sustainability are understood via Chinese schools of thought. In addition to developing students' appreciation of China's contribution to world culture, the course aims to enhance students' understanding of the contemporary world.

HUM 167   Introduction to Japanese Culture (3 Hours)
The course acquaints students with the arts and ideas of Japan, from its pre-history through the present day. The approach is interdisciplinary, examining artistic and philosophical values embodied in theatre (including dance and music), painting (calligraphy), woodblock prints, ceramics, sculpture, literature, and gardens, as well as modern developments including anime and film. In addition to developing the students' appreciation of Japan's contribution to world culture, the course aims to enhance students' understanding of the contemporary world.

HUM 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

HUM 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the humanities not normally taught in the curriculum to interested and qualified students. Special Topics in Humanities may be repeated for credit but only on different topics. Total contact hours vary with topic. This is a repeatable course and may be taken more than once for credit.

Information Technology (IT)

Courses

IT 120   CompTIA A+ Core 2 (3 Hours)
This course aligns with the CompTIA A+ Core 2 certification exam. Students will learn to install and configure an operating system (OS), identify and apply fundamental security concepts, troubleshoot software and OS configurations and use best practice operational procedures. 2 hrs. lecture/2 hrs. lab/1 hr. open lab/wk.

IT 141   Introduction to Networks (3 Hours)
Introduction to Networks is the first of 3 courses in the Cisco Certified Network Associate (CCNA) curriculum. This course introduces the architecture, structure, functions, components, and models of the internet and other computer networks. The principles and structure of Internet Protocol (IP) addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple local area networks (LANs), perform basic configurations for routers and switches, and implement IP addressing schemes. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 150   Switching, Routing, and Wireless Essentials* (3 Hours)
Prerequisites : IT 140 or IT 141.
Switching, Routing and Wireless Essentials is the 2nd of 3 courses in the Cisco Certified Network Associate (CCNA) curriculum. This course focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLANs) and security concepts. Students will learn how to perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 151   VMware vSphere Essentials* (3 Hours)
Prerequisites : IT 120.
Students will gain a foundational understanding of virtualization and vSphere concepts, including cloud, network, and data center. Students will learn troubleshooting techniques and attain a working knowledge of managing a virtual environment using vSphere. 2 hrs. lecture/2 hrs. lab/1 hr. open lab/wk.

IT 152   Google Cloud Fundamentals* (3 Hours)
Prerequisites : IT 120.
This course teaches students the skills to successfully manage and maintain Google Cloud solutions. Topics include configuring infrastructure and application modernization, securing cloud operations, and configuring, managing and deploying Google Cloud solutions. 2 hrs. lecture/2 hrs. lab/1hr. open lab/wk.

IT 153   AWS Cloud Foundations* (3 Hours)
Prerequisites : IT 120.
This course provides students with a fundamental understanding of cloud computing in Amazon Web Services (AWS). Topics include cloud concepts, core services, security, architecture, pricing, support and data center technologies. 2 hrs. lecture/2 hrs. lab/1hr. open lab/wk.

IT 155   Microsoft Administration Fundamentals* (3 Hours)
Prerequisites : IT 120 or IT 205.
This course is designed to provide students with foundational knowledge of cloud concepts and services in Microsoft 365 and Microsoft Azure. Students will also learn about cloud security, privacy, compliance, and trust in these environments. 2 hrs. lecture, 2 hrs. lab, and 1 hr. open lab/wk.

IT 175   Cybersecurity Fundamentals* (3 Hours)
Prerequisites : (IT 120 or IT 205) and (IT 140 or IT 141).
This course is designed to provide students with the knowledge and skills required to install and configure systems to secure applications, networks and devices; perform threat analysis and respond with appropriate mitigation techniques; participate in risk mitigation activities; and operate with an awareness of applicable policies, laws and regulations. Students will perform these tasks to support the principles of confidentiality, integrity and availability. 2 hrs. lecture, 2 hrs. lab, 1 hr. open lab/wk.

IT 202   IT Scripting* (3 Hours)
Prerequisites : IT 231 .
The main objective of this course is to introduce students to writing scripts using Python. The course maps to the Python Institute PCAP (Python Certified Associate in Programming) certification exam with emphasis on networking programming. Topics covered in this course include lists, strings, dictionaries, functions, recursion, file processing, using modules, object-oriented programming and exception handling. 2 hrs. lecture, 2 hrs. open lab/wk.

IT 204   Enterprise Networking, Security and Automation* (3 Hours)
Prerequisites : IT 145 or IT 150.
Enterprise Networking, Security, and Automation is the 3rd of 3 courses in the Cisco Certified Network Associate (CCNA) curriculum. The course describes the architectures and considerations related to designing, securing, operating and troubleshooting enterprise networks. The course covers#wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access along with the introduction of software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students gain skills to configure and troubleshoot enterprise networks and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 206   Network Security Fundamentals* (3 Hours)
Prerequisites : IT 145 or IT 150.
This course is designed to provide an introduction to the core security concepts and skills needed for the installation, troubleshooting and monitoring of network devices to maintain the integrity, confidentiality and availability of data and devices. Topics covered include network threats, mitigation techniques, securing network devices, implementing firewall technologies, implementing intrusion prevention, securing local area networks (LANs), implementing virtual private networks (VPNs), and managing a secure network. Hands-on exercises will be used to reinforce the concepts. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 207   AWS Cloud Operations* (3 Hours)
Prerequisites : IT 153.
This course teaches students the skills to successfully manage cloud operations of Amazon Web Services (AWS). Topics include creating automatable and repeatable deployments of networks and systems using AWS features and tools for configuration and deployment. 2 hrs. lecture/2 hrs. lab/1 hr. open lab/wk.

IT 223   Azure Administration* (3 Hours)
Prerequisites : IT 155 or IT 221.
This course teaches students the fundamentals of Azure Administration. Students will implement, manage and monitor a Microsoft Azure environment, including virtual networks, storage, compute, identity, security and governance. Students will also implement security controls that protect identity, access, data, applications and networks in cloud and hybrid environments as part of an end-to-end infrastructure. 2 hrs. lecture, 2 hrs. lab, and 1 hr. open lab/wk.

IT 224   Microsoft 365 Administration* (3 Hours)
Prerequisites : IT 155 or IT 221.
This course teaches students the fundamentals of deploying, configuring, protecting, managing, and monitoring devices and client applications in a Microsoft 365 environment. Students will manage identity, security, access, policies, updates, and apps for endpoints. They will implement solutions for efficient deployment and management of endpoints on various operating systems, platforms, and device types. They will also perform Microsoft 365 tenant-level implementation and administration of cloud and hybrid environments. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 230   Linux Fundamentals (3 Hours)
This course is designed to provide students with a fundamental understanding of the Linux operating system environment. Students successfully completing this course will be able to perform Linux installation and package management; execute common Linux commands and utilities; and accomplish different system tasks such as navigating the filesystem and utilizing the resources of a basic Linux system.

IT 231   Linux Administration* (3 Hours)
Prerequisites : IT 230.
This course is designed to provide students with the necessary knowledge and skills to perform competently as a Linux system administrator. Students successfully completing this course should be able to perform basic system administration tasks including configuring the graphical user interface, managing user accounts, managing system logging, configuring basic networking, writing shell scripts and maintaining system security.

IT 238   Digital Forensics* (3 Hours)
Prerequisites : (IT 120 or IT 205) and IT 230.
This course will cover the fundamentals of computer and cyber forensics. Students will learn different aspects of digital evidence and methods to uncover illegal activities left on storage media. Various forensics tools, techniques and procedures will be used in a lab environment to perform forensic investigations. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 239   Ethical Hacking* (3 Hours)
Prerequisites : (IT 145 or IT 150) and IT 230.
This course introduces students to common computer vulnerabilities as well as exploits and techniques used by hackers. Students will develop countermeasures to mitigate attacks and strengthen system security. Topics covered include vulnerability scanning, social engineering, denial of service attacks, intrusion detection, buffer overflow and penetration testing. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 257   Cybersecurity Operations* (3 Hours)
Prerequisites : IT 175 and (IT 150 or IT 145) and IT 230.
Cybersecurity Operations is designed to map to the Cisco Certified CyberOps Associate certification. The course covers knowledge and skills needed to successfully handle the tasks, duties and responsibilities of an associate-level Security Analyst working in a Security Operations Center (SOC). Topics covered include investigating endpoint vulnerabilities and attacks, evaluating network security alerts and applying incident response models to manage network security incidents. 2 hrs. lecture, 2 hrs. lab and 1 hr. open lab/wk.

IT 271   Information Technology Internship I* (3 Hours)
Prerequisites : (IT 120 or IT 140 or IT 141 or IT 205 or IT 230) and Department approval.
This course affords the student the opportunity to apply classroom knowledge to a real-world environment. Students will gain advanced information technology experience working with local employers, under instructional oversight, which will promote the student's career goals. Student will work a total of 300 hours/semester at an approved job site.

IT 272   Information Technology Internship II* (3 Hours)
Prerequisites : IT 271 and department approval.
This course is a continuation of IT 271, Internship I. It provides the student additional opportunity to apply classroom knowledge to an actual work environment. Students will work a total of 300 hours per semester at an approved job site.

IT 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
This course periodically presents specialized topics in computer networking that are not available in the regularly offered curriculum. Special Topics may be repeated for credit, but only on different topics. This is a repeatable course and may be taken more than once for credit.

Interior Design (ITMD)

Courses

ITMD 115   Accessory Fundamentals (1 Hour)
This course provides in-depth knowledge about accessories and accessory placement. Upon successful completion of this course, the student should be able to identify the various principles and elements of design as they relate to accessories. Students should be able to identify and explain the difference between functional and decorative accessories. Additionally, the student should demonstrate knowledge of the quality of different types of accessories, how to identify the client's personal style, and how to successfully place, layer and group different types of accessories. 1 hr. lecture/wk.

ITMD 116   Lighting Fundamentals (1 Hour)
This course provides general knowledge about lighting design and planning. Upon successful completion of this course, the student should be able to define and use vocabulary relating to lighting design/planning, display a general recognition of technical lighting requirements, and apply the principles and theories of light and color effectively in relation to environmental impact and human well-being.

ITMD 121   Interior Design I (3 Hours)
This course is an introduction to interior design. Upon successful completion of this course, the student should recognize the significance of interior design, apply the elements and principles of design including color theory, use the basis of the design process to solve a design problem and present design information visually and verbally in a professional manner. Identify career options in the interior design profession and the significance of sustainability in the built environment.

ITMD 125   Interior Textiles (3 Hours)
This course is an examination of textiles used in the built environment. Upon successful completion of this course, the student should be able to differentiate fibers, yarns and textiles according to their specific characteristics and to select appropriate textiles for applications. Specific course content includes properties and characteristics of natural and man-made fibers; yarn construction, textile construction methods; and various finishing processes. Furthermore, students will study the sustainability of these textile elements. The course will concentrate on textiles designed for interior built environment applications.

ITMD 127   Elements of Floral Design (1 Hour)
This course provides in-depth knowledge and hands-on application of floral design. Upon successful completion of this course, the student should be able to use the principles of floral design, develop a proficiency in the techniques of line and mass arrangements, possess a greater appreciation for flowers and other plant material, apply the mechanics and design considerations involved in working with silk and dried materials, and design and create silk and dried floral arrangements.

ITMD 129   Design Communication* (3 Hours)
Prerequisites or corequisites: ITMD 202 with a grade of "C" or higher .
This is an intermediate course focusing on artistic presentation techniques of 2D and 3D. Manual and digital drawing methods used in the interior design profession will be explored. Upon successful completion of this course, the student should demonstrate skill in conceptual and technical processes to convey visual information. Color palette use, light source and shading, surface and detail texturing and entourage will be used to successfully illustrate design solutions. Additionally the student will organize and demonstrate visual and verbal presentations to communicate a design solution.

ITMD 132   Materials and Resources (3 Hours)
This course focuses on the materials and resources used in the built environment. The student will evaluate the quality of materials; demonstrate the ability to locate and use product information resources; identify manufacturing and construction techniques used in products; recognize the sustainability and environmental impact of materials; use correct terminology to describe the various types of materials; and compare the design, use, durability and cost of materials.

ITMD 164   Architectural Drafting for Residential Interior Design (3 Hours)
Upon completion of this course the student should be able to interpret and draft residential architectural drawings and utilize industry references and resources. Drawings studied include floor plans, elevations, sections, reflected ceiling plans and schedules. Students will draft on a variety of relevant materials.

ITMD 181   Interior Design Software I* (1 Hour)
Prerequisites or corequisites: DRAF 264 with a grade of "C" or higher.
This course will focus on procedures of computer aided software programs unique to the interior design industry. Students will learn to create floor plans, orthographic and perspective drawings.

ITMD 182   Interior Design Software II (1 Hour)
This course will focus on procedures of computer aided software programs unique to the kitchen and bath industry. Students will learn to create floor plans and perspective drawings. Upon successful completion students will demonstrate ability to use layout and perspective tools to create a functional kitchen and/or bath.

ITMD 202   Interior Design II* (3 Hours)
Prerequisites : ITMD 121 with "C" or higher and (DRAF 164 with a grade of "C" or higher or ITMD 164 with a grade of "C" or higher).
This course focuses on the design process. Upon successful completion of this course, the student should be able to define and apply the design process from programming through design development to effectively solve a design problem. The design solutions will also incorporate anthropometrics, proxemics and universal design elements. The course will introduce students to varying psychological dynamics and how they will affect the built environment. Furthermore, the student will incorporate National Kitchen and Bath (NKBA) standards and sustainable concepts as required for the design solution. Design solutions will be presented in verbal and visual formats appropriate for interior design.

ITMD 214   Building Construction and Environmental Systems for the Interior Designer* (3 Hours)
Prerequisites : ITMD 116 with a grade "C" or higher and ITMD 202 with a grade "C" or higher.
This course focuses on the use of the principles of acoustics, thermal comfort, indoor air quality, plumbing systems, and waste management in relation to environmental impact and human well-being. Upon successful completion of this course, students should be able to define these principles and their interrelationships with interior construction, base building construction, and building systems. Students will analyze their impact on human factors.

ITMD 222   Interior Design III* (3 Hours)
Prerequisites : ITMD 202 with a grade of "C" or higher and DRAF 264 with a grade of "C" or higher.
Prerequisites or corequisites: ITMD 129 with a grade of "C" or higher and ITMD 271 with a grade of "C" or higher.
This is an advanced course focusing on applying the design process to solve a design problem. The design process will be practiced to formulate a complete design solution. Upon successful completion of this course, the student should be able to proficiently apply the design process in layout and specification formats. In addition, the student will present aesthetic and technical information as required by the design problem. The student will also demonstrate an understanding of business practices.

ITMD 224   Interior Design IV* (3 Hours)
Prerequisites : ITMD 222 with a grade "C" or higher.
This is an advanced course focusing on using an "evidence-based design" approach. Upon successful completion of this course, the student will be able to describe and apply general and specific programming tasks, recognize research methods used in design, evaluate building codes and ADA (Americans with Disabilities Act) requirements, define contextual elements related to the built environment, understand the implementation of sustainability throughout the approach, apply human factors and philosophies to design solution, and discern the different approaches to various design categories. This course will focus on the commercial aspect of interior design.

ITMD 230   History of Interior Design I (3 Hours)
This course is an examination of the built environments from approximately Antiquity to Renaissance. Upon successful completion of this course, the student should be able to analyze and compare elements of the built environment to include but are not limited to: architecture, interiors, furniture, ornamentation, design motifs and textiles of historical periods from antiquity to the Renaissance. Additionally, the student should be able to discover the religious, political and social influences on the built environment each period. The student should also be able to identify and define the craftsmanship and materials used in the construction techniques of each historical period and correctly use vocabulary related to each era. 3hrs. lecture/wk.

ITMD 231   History of Interior Design II (3 Hours)
This course is an examination of the built environments from approximately the Renaissance to the 20th century. Upon successful completion of this course, the student will be able to analyze and compare elements of the built environment including but not limited to: architecture, interiors, furniture, ornamentation, design motifs and textiles of historical periods from the Renaissance to the 20th century. Additionally, the student should discover the social, religious and political influences on the built environment of each period. The student should also be able to identify the craftsmanship and materials used in the construction techniques of each historical period and correctly use vocabulary related to each era.

ITMD 235   Kitchen and Bath Design* (3 Hours)
Prerequisites : ITMD 181 with a grade of "C" or higher.
Prerequisites or corequisites: ITMD 222 with a grade of "C" or higher.
This is an advanced course in kitchen and bath design, planning and management. Upon successful completion of this course, the student will be able to produce drawings using appropriate graphic and presentation standards, develop written and verbal design statement to substantiate projects, demonstrate product, material, style, type and construction method knowledge, communicate and recommended installation procedures, understand selection, specification and ordering of products as it relates to cost, energy, safety and design. Students will also analyze sustainability within a kitchen and bath project.

ITMD 260   Practices and Procedures* (3 Hours)
Prerequisites : ITMD 271 with a grade of "C" or higher.
This course presents the business practices and procedures found in the interior design field. Upon successful completion of this course, the student will be able to use proper interior design industry terminology, appropriate business forms and contracts, define the types of business legal structures and solve business organizational and ethical problems.

ITMD 270   Interior Design Capstone* (1 Hour)
Prerequisites or corequisites: ITMD 224 with a grade of "C" or higher and ITMD 235 with a grade of "C" or higher.
This course is a culmination of the Interior Design Program course work. It should be taken in conjunction with or after completion of the final interior courses or in the graduating semester. Students will prepare a cover letter, resume, digital and hard copy portfolio. Upon successful completion of this course, the student will be able to select and rework portfolio materials for maximum visual potential and appeal. Leadership skills for joining the workforce will be examined and applied.

ITMD 271   Budgeting and Estimating* (3 Hours)
Prerequisites : ITMD 132 with a grade of "C" or higher and MATH 120 (or higher) with a grade of "C" or higher.
Upon successful completion of this course, the student will demonstrate an ability to measure accurately for project components, apply cost parameters to project components, effectively prepare material and labor cost estimate analysis, understand cost controls such as value engineering, and evaluate materials and labor cost. Students will use interior design business procedures and documents to complete project analysis.

ITMD 282   Interiors Internship I* (1 Hour)
Prerequisites : ITMD 121 with a grade of "C" or higher.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practical experience in the interiors industry. A minimum of 160 hours per semester of on-the-job training is required.

ITMD 284   Interiors Internship II* (1 Hour)
Prerequisites : ITMD 121 with a grade of "C" or higher.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practical experience in the interiors industry. A minimum of 160 hours per semester of on-the-job training is required.

ITMD 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

International Studies Abroad (ISAP)

Courses

ISAP 200   Study Abroad* (1-20 Hour)
Prerequisites : Department approval.
Study Abroad college credit course(s) is/are earned while studying in any one of more than 30 countries for a summer, semester or a year. For program requirements, please refer to the JCCC Study Abroad website. It is very important to meet with your academic adviser prior to studying abroad to see how the credits will apply to general education requirements and transfer schools.

Journalism/Media Communication (JOUR)

Courses

JOUR 120   Mass Media and Society (3 Hours) ▷
Each of us is exposed to and affected by the mass media on a daily basis. This course is designed to increase students' awareness of the various media and media's impact on their daily beliefs, opinions, decisions and goals. As a result, students will become more media literate and astute critics of media messages.

JOUR 122   News Writing and Reporting (3 Hours)
News Writing and Reporting prepares students who want to gain basic news-gathering and reporting skills across print, broadcast and online media platforms. Interviewing, researching and story writing under strict deadlines provide students with strong experiences in the storytelling process. News writing and style principles will be gained through stories produced for campus student media.

JOUR 125   Fundamentals of Advertising (3 Hours)
Fundamentals of Advertising introduces the student to the contemporary advertising process. Research, planning, creativity, production and media scheduling are discussed, along with individual mediums and their forms, functions and roles in society. Major emphasis is placed on advertising and integrated marketing research, planning and creativity.

JOUR 127   Introduction to Broadcasting (3 Hours)
This course serves students interested in gaining a greater understanding of broadcast and emerging technologies. Class time includes discussion of trends and issues, including regulations, ethics, news and information, and audience ratings. Productions in the college's student media facilities offer opportunities to experience and further evaluate their relationship to broadcast and related electronic media.

JOUR 130   Principles of Public Relations (3 Hours)
This course is intended to provide the student with an overview of the history, principles and real-life functions of public relations. Public relations is a rapidly growing field. The ability to communicate well with the public is essential in business, education, health care and numerous other fields. This course is designed to give students the background to develop their PR skills.

JOUR 145   Photojournalism (3 Hours)
This course is designed to meet the photographic needs of journalism students. It provides a journalistic approach to the concepts and application of photography for multimedia. Students will use cameras, computers and software to master the issues, concepts and constraints involved in creating images for a broad range of media. They will prepare and format digitized image files for storage and transmission, and print and Web-based reproduction.

JOUR 202   Broadcast Performance (3 Hours)
Students will learn how to improve their speaking voices and body language as well as the techniques necessary to effectively communicate messages through basic announcing skills. Interviewing, radio and television news, and commercial announcing are some of the topics covered in this course, which will allow students to polish their skills through performances in the college's television studio and on campus media.

JOUR 207   Introduction to Podcasting (3 Hours)
This course provides students with the fundamentals of Internet podcast production. The goal is to teach students basic techniques in audio console functions, program formats, and editing using computer software. Writing, producing, and performing are included.

JOUR 220   International Media (3 Hours)
The globalization of media has created a necessity to understand the complex media systems established overseas. These systems exert influence over the cultural, political and economic climate in the world's industrialized nations. Students in this course will learn about the history, interconnectivity, technological innovations and controversies surrounding media systems from a diverse selection of countries. Special emphasis in this course will be placed on the understanding of global journalism. 3 hrs. lecture/wk.

JOUR 222   Advanced Reporting* (3 Hours)
Prerequisites : JOUR 122.
This course is designed to sharpen the discernment, critical thinking and writing skills of student journalists. Specific English language rules and principles plus AP news writing style will be emphasized in the production of incisive, well-defined features, profiles, reviews, editorials and personal columns. Professional writings in various media will be examined and critiqued. Class members will have the opportunity to participate in hands-on video shooting and editing of a news story package. Students will gain additional experience by participating in news events, as well as interacting with area media professionals.

JOUR 225   Promotional Writing* (3 Hours)
Prerequisites : JOUR 125 or JOUR 130.
Students will study copywriting for promotional purposes, starting with an understanding of the target audience. Emphasis is on writing ads for print, radio and television; direct mail and direct response; the web; and new genres.

JOUR 227   Basic Video Production (3 Hours)
This course provides students with the fundamentals of video production. The goal is to teach students basic video techniques. Topics covered include technology, lighting, camera operations, audio and editing. Students will gain hands-on experience in the college's Media Production Services Department.

JOUR 247   Advanced Video Production* (3 Hours)
Prerequisites : JOUR 227.
Students will direct, produce, and edit programming for distribution via the college's media outlets. Students will develop the technical skills involved in both studio production and field production as well as advanced skills in camera operations, multi-camera directing, lighting, audio production, and graphics.

JOUR 269   Journalism Internship* (1 Hour)
Prerequisites : Department approval and completion of 3 credit hours in journalism/media communications coursework with a grade of "C" or higher.
A journalism/media internship allows students to gain work experience at an approved training center under staff supervision. Emphasis is on learning new skills related to a particular program or department at a media facility. Students may learn the application of writing and production techniques needed to produce video and broadcast news, produce advertising, or public relations promotional copy. On-the-job training includes a minimum of 60 hrs. for the semester by arrangement.

JOUR 270   Journalism Internship* (2 Hours)
Prerequisites : Department approval and completion of 3 credit hours in journalism/media communications coursework with a grade of "C" or higher.
A journalism/media internship allows students to gain work experience at an approved training center under staff supervision. Emphasis is on learning new skills related to a particular program or department at a media facility. Students may learn the application of writing and production techniques needed to produce video and broadcast news, produce advertising, or public relations promotional copy. On-the-job training includes a minimum of 120 hrs. for the semester by arrangement.

JOUR 271   Journalism Internship* (3 Hours)
Prerequisites : Department approval.
A journalism/media internship allows students to gain work experience at an approved training center under staff supervision. Emphasis is on learning new skills related to a particular program or department at a media facility. Students may learn the application of writing techniques needed to produce and broadcast news, and produce advertising or public relations promotional copy. On-the-job training involves approximately 15-20 hrs./wk. by arrangement. This is a repeatable course and may be taken more than once for credit.

JOUR 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

JOUR 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
This course offers specialized or advanced discipline-specific content related to the study of Journalism. This may be accomplished by expanding upon a subject introduced in current course offerings or by exploring a subject not addressed in the curriculum. Students may repeat Special Topics in Journalism for credit, but only on different topics. This is a repeatable course and may be taken more than once for credit.

Leadership (LEAD)

Courses

LEAD 130   Leadership & Civic Engagement (3 Hours) ⏚▶
This course is designed to help students develop the capacity and confidence for leadership in their personal, professional, and civic activities. The course focuses on the study of essential components and concepts of leadership, examination of characteristics and skills of effective historic and contemporary leaders, analysis of leadership skills and responsibilities in community settings, identification of personal leadership goals and standards, and development of competencies needed to meet community and global challenges in an informed, innovative, and responsible manner.

LEAD 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Legal Studies (LAW)

Courses

LAW 120   Introduction to Paralegal Studies (3 Hours)
Upon successful completion of this course, the student should be able to describe the paralegal profession and explain the role of the paralegal in a legal environment, including necessary skills, education and training, common duties, and representative tasks. The student should be able to explain the regulation of the legal profession and ethical issues relevant to attorneys and paralegals. The student should be able to draft a professional resume and design an effective job-search strategy.

LAW 121   Introduction to Law (3 Hours)
Upon successful completion of this course, the student should be able to describe the structure and organization of the American legal system and explain its role, functions, and legal powers. The student should be able to explain the fundamental principles of the major subject areas of the law, including criminal law, tort law, contract law, business and employment law, family law, property law, and estate planning and probate law.

LAW 132   Civil Litigation* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to identify the various sets of court rules that regulate the civil litigation process and explain the stages of a civil lawsuit. The student should be able to describe the role of the paralegal in a civil litigation practice and be able to draft documents commonly used in the civil litigation process.

LAW 134   Introduction to Legal Technology* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain the role of technology within a legal work environment, and use software customarily available in a modern legal work environment, including word processing, spreadsheet and presentation software. In addition, students will demonstrate the ability to create, edit and share common legal documents and forms, and to use the internet within a legal work environment.

LAW 142   Tort Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain the major principles of tort law and personal injury litigation. The student should be able to identify the elements of intentional torts, negligence torts and strict liability torts, as well as the types of damages available and defenses to each of these torts.

LAW 144   Contract Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to describe the elements of a contract and explain the formation of a contract. The student should be able to discuss the ways in which a contract is discharged, including discharge by performance or breach, relevant defenses and available remedies. The student should also be able to explain the rights and obligations of third parties to a contract.

LAW 148   Criminal Litigation* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain the objectives, substantive principles and procedural rules of the criminal process in the Kansas and federal judicial systems. The student should be able to explain the role of the paralegal in criminal litigation practice and draft documents relevant to criminal litigation.

LAW 152   Real Estate Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to describe the rights of property ownership and public and private limitations on those rights. In addition, the student should be able to describe the common types of real estate transactions, and be able to comprehend and prepare key documents commonly used in a real estate transactions.

LAW 162   Family Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to describe the substantive and procedural principles of family law, including issues related to adoption, divorce, custody, support and visitation. The student should also be able to draft pleadings, including a petition for divorce, a petition for adoption, decrees, settlement agreements and motions for modification.

LAW 165   Forensic Science and the Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain legal constraints on the use of scientific evidence, including U.S. Supreme Court decisions and other legal rules. The student should be able to describe the major fields of forensic science and their applications, and explain current challenges facing the forensic science community and their implications for the application of forensic science to the law. The student should be able to explain career opportunities available to persons interested in a forensic-related career.

LAW 195   Legal Research* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to demonstrate sophisticated skills for the retrieval of information from authoritative legal literature sources, including both print and electronic media. The student should be able to manage the research process by utilizing a research model that will enhance the student's efficiency and effectiveness as a legal researcher.

LAW 201   Advanced Legal Technology* (3 Hours)
Prerequisites : Admission to the Paralegal program or the Legal Administrative Assistant Certificate program and (LAW 134 with a grade of "C" or higher) or Department approval.
Upon successful completion of this course, the student should be able to evaluate and use specialized legal software to perform customary tasks within a legal environment, including litigation support, discovery, case management, office management, file management, timekeeping and billing, docket control, and preparation of courtroom presentations.

LAW 205   Legal Analysis and Writing* (3 Hours)
Prerequisites : Admission to the Paralegal program and LAW 195 with a grade of "C" or higher or department approval.
Upon successful completion of this course, the student should be able to analyze case law, statutes and secondary legal authority. The student should be able to communicate research results, analysis and conclusions professionally and effectively.

LAW 226   Immigration Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain the various aspects of immigration law. The emphasis in the course is on the functions of the paralegal in an immigration law practice and on the preparation of related documents.

LAW 232   eDiscovery and Document Management* (2 Hours)
Prerequisites : Admission to the Paralegal program and LAW 120 with a grade of "C" or higher and LAW 121 with a grade of "C" or higher or department approval.
Prerequisites or corequisites: LAW 134 with a grade of "C" or higher or department approval.
This course provides students with a comprehensive overview of acquiring, managing, producing, and organizing varied data or documents during all phases of a lawsuit. Students are provided an in-depth review of the technology/software used by litigation teams in the acquisition of data and eDiscovery processing. The role of software in eDiscovery and information governance is explored, with a focus on eDiscovery vocabulary, technology platforms, and the role software plays in the litigation process. Students will explore technology used by litigation support professionals for data collection, document review and production, plus presentation at trial.

LAW 245   Elder Law and Estate Planning* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain the legal aspects of aging. The student should be able to discuss financial planning, healthcare, personal planning and protection, taxation, housing and other legal matters affecting the elder client. The student should also be able to articulate the use of wills and trusts in estate planning.

LAW 247   Intellectual Property Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain the types of intellectual property: patent, copyright, trademark and trade secrets. The student should be able to prepare documents related to the protection of intellectual property rights.

LAW 266   Employment Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to classify the relationship between employer and worker. The student should be able to apply federal and state laws that address equal opportunity, workers' compensation, and employment protections and benefits.

LAW 269   Bankruptcy Law* (3 Hours)
Prerequisites : Admission to the Paralegal program or department approval.
Upon successful completion of this course, the student should be able to explain the purpose of the federal Bankruptcy Code. The student should be able to prepare bankruptcy forms and documents, especially those related to Chapter 7, Chapter 11 and Chapter 13 bankruptcy filings.

LAW 271   Legal Ethics, Interviewing and Investigation* (3 Hours)
Prerequisites : Admission to the Paralegal program and LAW 134 with a grade of "C" or higher or department approval.
Prerequisites or corequisites: LAW 205 with a grade of "C" or higher.
Upon successful completion of this course, the student should be able to explain ethical rules and standards governing the legal profession, interview clients and witnesses, and investigate the facts as part of a legal analysis or proceedings. A major emphasis will be on recognition of ethical problems commonly encountered and the development of interviewing and investigating skills. The course is also designated as the capstone course for the paralegal program. The course will draw the student's paralegal learning and provide an opportunity to demonstrate that the student has accomplished the program's educational goals. This opportunity will focus on finalizing and reviewing the student's e-portfolio.

LAW 275   Paralegal Internship I* (1 Hour)
Prerequisites : Admission to the Paralegal program and LAW 120 with a grade of "C" or higher and LAW 121 with a grade of "C" or higher or department approval .
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practice experience in a legal setting. The student must complete 90 hours of work at the internship site. Obtaining an internship is the responsibility of the individual student.

LAW 276   Paralegal Internship II* (1 Hour)
Prerequisites : Admission to the Paralegal program and LAW 275 with a grade of "C" or higher or department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practice experience in a legal setting. The student must complete 90 hours of work at the internship site. Obtaining an internship is the responsibility of the individual student.

LAW 277   Paralegal Internship III* (1 Hour)
Prerequisites : Admission to the Paralegal program and LAW 276 with a grade of "C" or higher or department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practice experience in a legal setting. The student must complete 90 hours of work at the internship site. Obtaining an internship is the responsibility of the individual student.

LAW 292   Special Topics:* (1-3 Hour)
Prerequisites : Admission to the Paralegal program or department approval.
This course periodically offers specialized or advanced discipline-specific paralegal topics related to law not usually taught in the curriculum to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Library (LIBR)

Courses

LIBR 125   Introduction to Library Research (1 Hour)
This course provides an introduction to the methods and technologies of library research. Included will be a study of the various information resources available for research and techniques for retrieving information from both print and electronic sources. The resources of Billington Library will be featured, although the emphasis will be on building information retrieval skills that will be useful in many settings.

Marketing Management (MKT)

Courses

MKT 121   Retail Management (3 Hours)
Upon successful completion of this course, the student should be able to describe and analyze retail store organization and operation including customer markets, store location and design, human resource management, merchandise planning and control, and retail promotion.

MKT 134   Professional Selling (3 Hours)
Upon successful completion of this course, the student should be able to describe the process of successful selling. In addition, the student should be able to define the steps of selling and identify appropriate application. The student should also be able to apply selling principles through role-play.

MKT 146   Introduction to Social Media Marketing (3 Hours)
Students in this course will survey usage of social media for marketing purposes. This course will study the relevance and importance of new and emerging marketing processes within social media. Students will analyze basic practical social media as well as learn "best practices" and use different social media throughout the class to create content. 3 hrs. lecture/wk.

MKT 150   Introduction to Insurance (3 Hours)
The student will gain a foundation in the insurance industry. The course provides information on types of insurance, providers, the regulatory environment and performance measures. The course will address the functions of marketing, underwriting and claims within the industry. The course will provide an overview of the insurance contract, including terminology and industry-related clauses. Upon successful completion of this course, a student should be prepared to take the appropriate licensing exam. 3 hrs. lecture/wk.

MKT 180   Experiential Marketing (3 Hours)
This course consists of a series of hands-on experiences designed to help students identify and enhance skills needed as a marketing professional. Each experience will give students the opportunity to apply knowledge gained in prior class work toward the management of real-world marketing positions, as well as prepare them for the job search. Students will acquire this applied experience in appropriate business situations through the development and implementation of an individualized professional development plan, job shadowing, involvement in professional marketing associations and events, informational interviews, a marketing simulation, the development of materials to support a job search, and analysis of/reflection on these activities.

MKT 202   Consumer Behavior (3 Hours)
Upon successful completion of this course, the student should be able to analyze the elements and influences that affect consumer behavior. In addition, the student should be able to apply the basic principles of consumer behavior and insight to the application of consumer-research findings used in the professional practice of marketing.

MKT 205   eMarketing (3 Hours)
The Internet has led to an increasingly connected environment, and the growth of Internet usage has resulted in the declining distribution of traditional media: television, radio, newspapers, and magazines. Marketing in this connected environment and using that connectivity to market is eMarketing. In this course, the student will understand and recognize the importance of an integrated eMarketing communications plan in order to coordinate all of the promotional mix and marketing communications elements for today's businesses. Topics of study include advertising, direct marketing, sales promotion, social media, web design, public relations and interactive media. The course integrates theory with planning, management and strategy plus hands-on experience. eMarketing explores how to use integrated web, email and database technologies in pre-built, personalized marketing campaigns to acquire and retain customers. Upon completion, the student will be able to develop an effective eMarketing communications program.

MKT 221   Sales Management* (3 Hours)
Prerequisites : MKT 134.
Upon successful completion of this course, the student should be able to identify skills necessary to manage a sales force and develop a plan for recruitment selection, training, motivation and evaluation. In addition, the student should be able to describe and analyze techniques to forecast and plan sales and audit results.

MKT 230 Marketing (3 Hours) �️

Upon successful completion of this course, the student should be able to explain the concepts of production, consumption and distribution in relation to a free enterprise economy; list the basic channels of distribution available to the manufacturer of consumer and industrial products; explain and compare the distribution functions of the manufacturer, wholesaler and retailer; and state the procedures necessary to develop a total marketing plan for a given product, service or product line. In addition, the student should be able to discuss the fundamental principles of consumer behavior in the buying process and apply those principles to target market strategies.

MKT 234 Services Marketing* (3 Hours)

Prerequisites or corequisites: MKT 230.

Upon successful completion of this course, the student should be able to describe the functioning of a services economy. In addition, students should be able to describe and define the nature and characteristics of services and the way services are required to be marketed because of their intangible core. Additionally, students should be able to describe service quality, the foundation of services marketing and the success factors in services marketing.

MKT 240 Advertising and Promotion (3 Hours)

In this course, the student will understand and recognize the importance of an integrated marketing communications planning model in order to coordinate all of the promotional mix elements for today's businesses. Topics of study include advertising, direct marketing, sales promotion, public relations and interactive media. The course integrates theory with planning, management and strategy. Upon completion, the student will be able to develop an effective marketing communications program.

MKT 275 Marketing Analytics and CRM (Customer Relationship Management) (3 Hours)

This course will focus on the principles and strategic concepts of marketing analytics and customer relationship management (CRM). Digital marketing analytics uses digital models and metrics to improve marketing decisions and return on marketing investment (ROMI). Students will analyze the most up-to-date technologies in digital data analytics, automated marketing, database management and CRM, as well as the role of business intelligence based on data in this process. Furthermore, the student will interpret the value of analytics and CRM in uncovering the human element in data and discovering behavioral insights that lead to higher profits. At the core of this class is the application of database marketing and maintaining profitable customer relationships.

MKT 284 Marketing Management Internship I (1 Hour)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 48 hours, per semester, of on-the-job training is required.

MKT 286 Marketing Management Internship II* (1 Hour)

Prerequisites : MKT 284.

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 48 hours, per semester, of on-the-job training is required.

MKT 290 Capstone: Marketing Management* (3 Hours)

Prerequisites : MKT 134 and MKT 205 and MKT 230 or department approval.

Prerequisites or corequisites: MKT 180.

Upon successful completion of this course, the student should be able to identify problems, develop and describe the situational analysis, formulate alternative solutions, and reach and explain a decision for each issue. In addition, the student should be able to apply the knowledge of marketing and management concepts and techniques in the analysis of cases and actual business situations. The student will finalize a resume and marketing portfolio.

MKT 291 Independent Study* (1-7 Hour)

Prerequisites : 2.0 GPA minimum and department approval.

Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

MKT 292 Special Topics: (1-3 Hour)

This course offers specialized or advanced discipline-specific content related to diverse areas of Marketing Management. Special Topics may be repeated for credit, but only on different topics. The course is structured to allow current marketing topics to be explored as an industry-valued skillset. This is a repeatable course and may be taken more than once for credit.

Mathematics (MATH)

Courses

MATH 011   Fundamentals of Mathematics* (3 Hours)
Prerequisites : (COLL 010 with a grade of "C" or higher or AAC 092 with a grade of "C" or higher or AAC 112 with a grade of "C" or higher) or appropriate score on the math placement test.
Fundamentals of Mathematics is designed for the student who needs to improve or review basic math skills and concepts. This course includes computation using integers, fractions, decimals, proportions and percents along with an overview of measurement, geometry and statistics. Fundamentals of Math provides the mathematical foundation upon which subsequent studies in mathematics and other areas depend. This course is the first in a sequence of courses leading to MATH 116 or higher. This course does not fulfill degree requirements.

MATH 014   Accelerated Prep for College Math* (5 Hours)
Prerequisites : (MATH 011 with a grade of "B" or higher or MATH 111 with a grade of "B" or higher) or an appropriate score on the math placement test.
This accelerated course includes all algebra topics needed to prepare a student for MATH 165, MATH 171, or MATH 173. The course is designed to help students acquire a solid foundation in the required skills of algebra. Students will simplify arithmetic and algebraic expressions, including those containing polynomials, rational expressions, rational exponents, radical expressions and complex numbers; solve linear inequalities; solve equations that are linear, quadratic, and quadratic in form as well as equations containing rational expressions or radicals; graph linear equations and inequalities; graph quadratic equations; and analyze linear equations, functions and non-functions. This course does not fulfill degree requirements.

MATH 015   Elementary Algebra* (3 Hours)
Prerequisites : (MATH 011 with a grade of "C" or higher or MATH 111 with a grade of "C" or higher) or appropriate score on the math placement test.
This is a beginning course in algebra, designed to help students acquire a solid foundation in the basic skills of algebra. Students will learn to simplify algebraic expressions, polynomials, rational expressions and square root expressions; solve equations and inequalities, including linear equations and quadratic equations; and graph linear equations. This course is the second in a sequence of courses leading to MATH 116 or higher. This course does not fulfill degree requirements.

MATH 071   College Algebra Support Course* (3 Hours)
Prerequisites : Completion of JCCC placement requirements.
Corequisites: MATH 171.
This corequisite support course is designed to be taken concurrently with MATH 171 College Algebra. The purpose of this course is to supplement College Algebra with individualized study plans that will assist students in mastering algebraic skills and topics along with applying learning strategies and study techniques to promote success with the College Algebra course objectives. 3 hrs. lecture/wk.

MATH 116   Intermediate Algebra* (3 Hours)
Prerequisites : (MATH 015 with a grade of "C" or higher or MATH 115 with a grade of "C" or higher) or appropriate score on the math placement test.
This course focuses on arithmetic and algebraic manipulation, equations and inequalities, graphs, and analysis of equations and graphs. Students will simplify arithmetic and algebraic expressions, including those containing rational expressions, rational exponents, radicals and complex numbers; solve equations including linear, quadratic, quadratic in form, as well as those containing rational expressions or radicals; graph linear inequalities in two variables; and analyze functions and non-functions.

MATH 118   Geometry* (3 Hours)
Prerequisites : (MATH 015 with a grade of "C" or higher or MATH 115 with a grade of "C" or higher) or appropriate score on the math placement test.
This course is an introductory approach to geometry. Topics will include lines, polygons, area, volume, circles, similarity, and congruence.

MATH 120   Business Mathematics* (3 Hours)
Prerequisites : (MATH 011 with a grade of "C" or higher or MATH 111 with a grade of "C" or higher) or appropriate score on the math placement test.
This is a course for the student who needs specific skills in mathematics to address business problems and business applications. Students will learn the mathematics involved in payroll, retailing, asset valuation, interest, finance, and the time value of money. Students will use a calculator and computer to solve a variety of applications.

MATH 130   Technical Mathematics I* (3 Hours)
Prerequisites : (MATH 011 with a grade of "C" or higher or MATH 111 with a grade of "C" or higher) or an appropriate score on the math placement test.
This course is the first of a two-semester sequence that will introduce the mathematical skills and concepts necessary in technical work. It will focus on the basics of algebra, geometry and their applications. Topics will include operations with polynomials, linear equations, systems of equations, formulas, basic geometry, and Boolean algebra.

MATH 131   Technical Mathematics II* (3 Hours)
Prerequisites : MATH 130 with a grade of "C" or higher.
This course is the second of a two-semester sequence on the mathematical skills and concepts necessary in technical work. It will focus on more advanced algebraic skills, solving equations, and trigonometry. The topics will include polynomials, rational expressions, radical expressions, complex numbers, solving quadratic, rational, radical, exponential and logarithmic equations, and working with basic trigonometry.

MATH 165   Finite Mathematics* (3 Hours) ⟁▶
Prerequisites : (MATH 014 with a grade of "C" or higher or MATH 114 with a grade of "C" or higher) or MATH 116 with a grade of "C" or higher or completion of JCCC placement requirements.
This course will emphasize the beauty, scope, practical applications and relevance of mathematics. It is designed to involve the students with the concepts as well as quantitative skills. Topics include set theory, symbolic logic, deductive reasoning, probability, statistics, mathematics of finance, systems of equations, matrix algebra and linear programming.

MATH 171   College Algebra* (3 Hours) ⟁▶
Prerequisites : MATH 014 with a grade of "C" or MATH 116 with a grade of "C" or higher or completion of JCCC placement requirements.
This course focuses on the study of functions and their graphs, techniques of solving equations, and applications. Students will analyze and graph non-functions and functions, including constant, linear, quadratic, piecewise-defined, absolute value, square root, polynomial, rational, exponential, and logarithmic functions; solve equations, including polynomial, absolute value, radical, rational, exponential, logarithmic, and systems of linear equations; solve inequalities, including absolute value, polynomial, rational, and systems of linear inequalities; and apply functions in real-world situations.

MATH 172   Trigonometry* (3 Hours) ⟁▶
Prerequisites : MATH 171 with a grade of "C" or higher or appropriate score on the math placement test.
This is a course in trigonometric functions and graphs. Emphasis will be on understanding function notation, definitions, algebraic relations, real-world applications, graphing in the real and complex plane, inverse functions, polar functions and vectors.

MATH 173   Precalculus* (5 Hours)
Prerequisites : (MATH 014 with a grade of "C" or higher or MATH 114 with a grade of "C" or higher) or MATH 116 with a grade of "C" or higher or appropriate score on the math placement test.
MATH 173 is an accelerated course recommended for students with a strong high school math background (three to four years) who plan to take calculus. This course focuses on the study of functions and their graphs, solving equations and inequalities, recognition and creation of patterns, and the use of mathematical models. Included in the course are linear, power, polynomial, rational, radical, exponential, logarithmic, trigonometric and absolute value functions.

MATH 175   Discrete Mathematics and its Applications* (3 Hours)
Prerequisites : MATH 171 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher or appropriate score on the math placement test.
This course is designed to present the beauty, scope, practical applications and relevance of mathematics. It will focus on applications of general interest drawn primarily from the social and biological sciences and business. Topics will be placed in a historical context, and mathematical reasoning will be stressed.

MATH 181   Statistics* (3 Hours) ⟁▶
Prerequisites : MATH 171 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher or appropriate score on the math placement test.
This is a beginning course in statistical analysis, the skill of making sense of raw data, constructing graphical representations of data, developing models for making predictions, performing tests to determine significant change and finding intervals for population values. Students will learn the basics of descriptive statistics, probability, sampling, confidence intervals, distributions, hypothesis testing, regression and correlation. Use of technology will be incorporated into course topics.

MATH 191   Math and Physics for Games I* (4 Hours)
Prerequisites : (MATH 171 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher or appropriate score on math placement test) and GAME 121.
This introductory course focuses on the mathematics and physics concepts needed to program a variety of video game scenarios. Students will learn to use vectors and matrix transformations to model the motion of physical objects in two and three dimensions. Students will also learn various computer programming methods in order to model these mathematical and physical concepts. MATH 191 and PHYS 191 are the same course; enroll in only one.

MATH 210   Mathematics for Elementary Teachers I* (3 Hours)
Prerequisites : MATH 171 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher or appropriate score on math placement test.
This is the first of a two-course sequence for prospective teachers of elementary and middle school mathematics. The focus of this course is an in-depth investigation of the mathematical principles and concepts encountered in grades K-8. Topics include set theory, numeration systems, number sense, critical thinking, and problem-solving strategies. The use of appropriate techniques and tools, such as calculators, computers and manipulatives, will be integrated throughout the course in order to enhance the depth of understanding.

MATH 212   Math for Elementary Teachers II* (3 Hours)
Prerequisites : MATH 210 with a grade of "C" or higher or department approval.
This is the second of a two-course sequence for prospective teachers of elementary/middle school mathematics. The focus of this course is an in-depth investigation of the mathematical principles and concepts encountered in grades K-8. Topics include probability, statistics, measurement, and shapes including congruency, similarity, and transformations. The use of appropriate techniques and tools, such as calculators, computers, and manipulatives, will be integrated throughout the course in order to enhance the depth of understanding.

MATH 231   Business and Applied Calculus I* (3 Hours)
Prerequisites : MATH 171 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher or an appropriate score on a placement test.
This is the first course in calculus as it applies to business; the social, behavioral and biomedical sciences; and other fields. Concepts include measuring the slope of a curve, writing equations of tangent lines, finding maximum and minimum points, determining the rate of change of a function, and measuring the area under a curve. Algebraic skills and application problems are stressed. Specific calculus topics include finding limits; differentiation of algebraic, exponential and logarithmic functions; and integration of algebraic and exponential functions. Trigonometry (MATH 172) can be taken concurrently with MATH 231 for those students planning to enroll in MATH 232 in subsequent semesters.

MATH 232   Business and Applied Calculus II* (3 Hours)
Prerequisites : MATH 231 and (MATH 172 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher) or an appropriate score on the math placement test.
This is the second course in a two-semester series on calculus that covers five techniques of integration, differentiation and integration of trigonometric functions, differential equations, and functions of several variables as applied to business, statistics, biology and the social sciences.

MATH 241   Calculus I* (5 Hours)
Prerequisites : MATH 172 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher or an appropriate score on a placement test.
This is the first of a three-semester sequence on calculus designed for engineering, physics and math majors. Rates of change and areas will be studied. To accomplish this, the students will study and apply limits and continuity. Differentiation and integration of algebraic, trigonometric and transcendental functions will also be a major focus of this course.

MATH 242   Calculus II* (5 Hours)
Prerequisites : MATH 241 with a grade of "C" or higher.
This is the second course of a three-semester sequence on calculus. Integration is covered with an emphasis on analytical, numerical, and graphical methods. Techniques of integration are used to solve scientific and geometric applications. Infinite series are analyzed for convergence and applied to the representation of functions.

MATH 243   Calculus III* (5 Hours)
Prerequisites : MATH 242 with a grade of "C" or higher.
This is the third course in a three-semester sequence on analytic geometry and calculus. Topics include vector-valued functions, functions of several variables, multiple integration, and vector analysis.

MATH 246   Elementary Linear Algebra* (3 Hours)
Prerequisites : MATH 242 with a grade of "C" or higher.
This sophomore-level introduction to linear algebra uses a matrix-oriented approach, with an emphasis on problem solving and applications. The course focus is on matrix arithmetic, systems of linear equations, properties of Euclidean n-space, eigenvalues and eigenvectors, orthogonality and vector spaces.

MATH 254   Differential Equations* (4 Hours)
Prerequisites : MATH 243 with a grade of "C" or higher.
This course will cover standard types of equations that involve rates of change. In particular, this is an introductory course in equations that involve ordinary derivatives. Both qualitative and quantitative approaches will be used. Standard types and methods will be covered, including Laplace transforms, infinite series, and numerical methods. Basic linear algebra will be developed to solve systems of differential equations.

MATH 285   Statistics for Business* (4 Hours)
Prerequisites : MATH 231 with a grade of "C" or higher or MATH 241 with a grade of "C" or higher.
This is a beginning course in statistical analysis using calculus, with an emphasis on applications to business. The skill of making sense of raw data is important and includes constructing graphical representations of data, developing models for making predictions, performing tests to determine significant change, and finding intervals for population values. Students will learn the basics of descriptive statistics, probability, sampling, confidence intervals, hypothesis testing, linear regression, and an introduction to quality control. Students must have an understanding of calculus concepts in order to successfully complete this course.

MATH 290   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

MATH 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
MATH 292 allows students to investigate in-depth a single theme or topic in mathematics. This may be accomplished by expanding upon a subject introduced in current course offerings or exploring a subject not addressed in the curriculum of the mathematics department. Special Topics may be repeated for credit but only on different topics. Total contact hours vary with topic. This is a repeatable course and may be taken more than once for credit.

Med Info & Revenue Management (MIRM)

Courses

MIRM 140   Fundamentals of Health Records (2 Hours)
This course introduces students to foundational concepts in the management, storage, retrieval and use of health information in healthcare settings. Instruction focuses on the content and uses of health records, professional roles within the health information profession and accreditation and regulatory requirements in the management of health information.

MIRM 141   Computer Systems for Health Information Management Professionals* (3 Hours)
Prerequisites : HCIS 255.
This course introduces students to various information systems and technologies used in non-clinical and clinical areas of healthcare. Students will also explore the emergence of electronic health records and health information exchange activities, as well as the health policy environment influencing the use of technology in healthcare. Simulation using health information systems, electronic health records, administrative information systems and encoder software is embedded in this course to provide insight into health information management operations. The importance of data quality as a foundation to meaningful information within healthcare information systems is emphasized.

MIRM 142   Legal and Ethical Issues in Healthcare (3 Hours)
This course introduces the U.S. legal system, laws and ethical issues and how they relate to healthcare.

MIRM 143   Coding Classification Systems I* (3 Hours)
Prerequisites : BIOL 144 and HC 130 and MIRM 140.
This course focuses on the International Classification of Diseases 9th revision clinical modification (ICD-9-CM), as well as the 10th revision clinical modification and procedural coding system (ICD-10-CM/PCS) used in medical coding. Students will learn the role of ICD-9-CM and ICD-10-CM/PCS in coding for inpatient healthcare encounters, as well as the use of ICD-9-CM and ICD-10-CM codes for diagnosis coding in ambulatory and physician service settings. Students will examine the evolution from ICD-9-CM to ICD-10-CM/PCS in the United States, as well as compare and contrast between the 9th and 10th revisions of ICD. Instruction focuses on the importance of ethical conduct for coding professionals.

MIRM 144   Coding Classification Systems II* (3 Hours)
Prerequisites : MIRM 143.
This course focuses on Current Procedural Terminology (CPT) and Healthcare Common Procedure Coding System (HCPCS) coding classification systems. Students learn the role of CPT and HCPCS in coding for outpatient services and procedures, as well as physician services. Instruction focuses on the importance of ethical conduct for coding professionals.

MIRM 145   Reimbursement Methodologies* (3 Hours)
Prerequisites : MIRM 143.
This course examines healthcare reimbursement and financing in the United States. Course content focuses on the role of third-party payers, regulatory and health policy influences and the role of coding and reimbursement professionals in the revenue cycle. Legal and ethical dilemmas related to the reimbursement process are also discussed.

MIRM 146   Coding Classification Systems III* (3 Hours)
Prerequisites : MIRM 144.
This course focuses on intermediate-level content related to diagnosis and procedure coding. Students will build upon entry-level knowledge of diagnosis and procedure coding for hospitals, ambulatory healthcare settings and physician services. Students will apply this knowledge to more complex coding topics and exercises. Instruction focuses on the importance of ethical conduct for coding professionals.

MIRM 147   Introduction to Pharmacology* (2 Hours)
Prerequisites : BIOL 144 and HC 130.
This course introduces basic concepts of pharmacology and provides an overview of various types of medications. Students will also examine common medical conditions categorized by body system and identify commonly used pharmacologic treatments. An explanation of how assorted medications work within the body will be provided. After successful completion of this course, students will be able to comprehend health record documentation pertaining to medications and their uses in patient care.

MIRM 148   Medical Coding Internship* (1 Hour)
Prerequisites or corequisites: MIRM 146 and department approval.
This internship provides students with real-world coding experience in a healthcare facility. Students will shadow professional coders, as well as practice coding for a 40-hour work week. This internship also introduces students to various departments and professionals whose job functions relate to the work of medical coders through tours and interviews in the healthcare facility, with approximately 8 hours spent in this capacity. Students will prepare a daily journal describing their internship experiences. This internship includes 48 hours of internship responsibilities. A background check will be conducted on each student for internship placement purposes. Some healthcare facilities may require TB skin tests and/or drug screens for interns.

MIRM 198   Medical Coding Credential Exam Preparation* (2 Hours)
Prerequisites or corequisites: MIRM 146 or Department approval.
This course offers a final review of fundamental medical coding skills and regulatory guidelines in preparation for the national credential exams offered through the American Academy of Professional Coders (AAPC) and American Health Information Management Association (AHIMA). Students will apply these concepts based on current AHIMA examination domains and AAPC content outline.

Metal Fabrication and Welding (MFAB)

Courses

MFAB 124   Introduction to Welding (3 Hours)
Introduction to Welding is a basic welding, tool, and equipment safety course. This course will expose students to the various welding processes and techniques. Tools, equipment and safety related to the metal fabrication area will be discussed and used by the student. This is a hands-on course. Students will be required to purchase and use personal protective equipment (PPE).

MFAB 126   Cutting Processes for Welding* (3 Hours)
Prerequisites or corequisites: MFAB 124.
Through classroom, lab (shop) and assessment activities, students in this course will learn to safely and accurately set up, use, and troubleshoot common metal-cutting processes. This course uses common industry standards to assess the accuracy and quality of mechanical and thermal cutting performed by students. 1hr. lecture and 4 hrs. lab/wk.

MFAB 128   Basic Machine Tool Technology (3 Hours)
This course provides instruction in the operation of metal cutting machinery, which includes practice in the safe operation of a lathe, vertical mill and precision grinders. Layout equipment, measuring tools, gauges, hand tools, drilling machine, bench grinder, power saws and heat-treating equipment will also be presented. Machine tool safety, shop math and trigonometry will be emphasized throughout the course.

MFAB 131   Shielded Metal Arc Welding (SMAW) I* (3 Hours)
Prerequisites or corequisites: MFAB 124 and MFAB 126.
Through classroom and/or lab/shop learning and assessment activities, students in this course will describe the Shielded Metal Arc Welding process (SMAW); demonstrate the safe and correct setup of the SMAW workstation; associate SMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; perform basic SMAW welds on selected weld joints; and perform visual inspection of welds.

MFAB 133   Gas Metal Arc Welding (GMAW) I* (3 Hours)
Prerequisites : MFAB 124 and MFAB 126.
Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW workstation; correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds.

MFAB 136   Gas Tungsten Arc Welding (GTAW) I* (3 Hours)
Prerequisites : MFAB 124 and MFAB 126.
Through classroom and/or lab/shop learning and assessment activities, students in this course will: explain the gas tungsten arc welding process (GTAW); demonstrate the safe and correct set up of the GTAW workstation; relate GTAW electrode and filler metal classifications with base metals and joint criteria; build proper electrode and filler metal selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes and filler material in the flat position; build pads of weld beads with selected electrodes and filler material in the horizontal position; perform basic GTAW welds on selected weld joints; and perform visual inspection of GTAW welds.

MFAB 140   Maintenance Repair Welding* (3 Hours)
Prerequisites : MFAB 131 and MFAB 133 and MFAB 136.
Upon successful completion of this course, the student should be able to perform oxyfuel cutting (OFC), shielded metal arc welding (SMAW), gas metal arc welding (GMAW) and plasma arc cutting (PAC). Basic blueprint and standard AWS welding symbols will be introduced. Selected welds and assignments will be tested according to industry and AWS standards. The student will be required to provide ANSI Z-87.1 approved safety glasses and may be expected to provide other basic hand tools and/or equipment as required by employers. This course is designed for individuals who have welding experience or who are employed by a company that requires welding skills. This course can be customized for advanced training.

MFAB 180   Blueprint and Symbols Reading for Welders (2 Hours)
Upon successful completion of this course, the student should be able to identify basic welding positions and explain, list, sketch, draw, use or describe current American Welding Society (AWS) welding symbols and weld joint configurations. The student will be introduced to several methods of producing welding blueprints, object representatives, and specific meanings of selected lines, surface features, sectional views and basic math formulas used in the welding industry. The student will be able to identify the symbols used for fillet welds and groove welds made with and without backing. Topics such as pipe welding representations, pipe welding connections, pipe welding classifications, welder certification, metallurgical effects of heat on metals and the importance of weld quality and welding safety will be studied.

MFAB 205   Shielded Metal Arc Welding (SMAW) II* (3 Hours)
Prerequisites or corequisites: MFAB 131.
Upon successful completion of this course, the student should be able to weld fillet welds in the vertical-up (3F), and overhead (4F) weld positions, and groove joints in the vertical up, (3G) and overhead position (4G) weld positions with and/or without backing to industry standards. Students will be required to prepare materials using oxy-fuel cutting techniques. Students will perform a welding proficiency test equal to or exceeding the American Welding society (AWS) standard D1.1. Structural welding code. Students will be expected to provide basic hand tools and/or equipment.

MFAB 210   Gas Metal Arc Welding (GMAW) II* (3 Hours)
Prerequisites or corequisites: MFAB 133.
Upon completion of this course the student should be able to perform more advanced welds in selected positions on a variety of metal thicknesses. Mild steel, stainless steel, and aluminum metals will be utilized. Emphasis will be on short circuit, spray arc and pulse arc modes of metal transfer using larger diameter wire electrode. Industry standard testing techniques will be used.

MFAB 215   Fabrication Practices I* (3 Hours)
Prerequisites : MFAB 131 and MFAB 133 and MFAB 136.
Upon completion of this class, the student should be able to work from discipline specific drawings to manufacture and assemble a mock building section. This class is a capstone course and is intended to serve all MFAB graduate students who have completed the fundamental skills coursework within the metal fabrication certificate or degree programs. The Fabrication Practices I class is part one of an advanced comprehensive class intended to put to practical use the skills obtained throughout the existing Metal Fabrication and Welding Technology Career program. This class will put emphasis on structural steel fabrication, erection, and assembly. The coursework will focus on modern welding fabrication techniques and practices used in the manufacturing and installation of structural steel, piping systems, and miscellaneous welded mechanical items. Students will work in teams of three or four persons.

MFAB 220   Flux Core Arc Welding (FCAW)* (3 Hours)
Prerequisites : MFAB 133.
Upon completion of this course the student should be able to identify safety rules associated with the flux core arc welding (FCAW) process, identify FCAW equipment components, and perform welds in selected positions on a variety of metal thicknesses to industry standards.

MFAB 240   Metallurgy (2 Hours)
Metallurgy is the study of the science and technology of metals. This course covers the extractive, mechanical and physical phases of metallurgy. Topics include the identification of metals, types and classification of metals, heat treatment procedures and common steel manufacturing processes. AWS terms and definitions will be emphasized throughout the course.

MFAB 241   Gas Tungsten Arc Welding (GTAW) II* (3 Hours)
Prerequisites or corequisites: MFAB 136.
Upon successful completion of this course the student will be able to do more advanced GTAW welding projects. Weld in a variety of positions and on several thicknesses of material. Emphasis will be on safety, quality, measurements, and out of position welding. Students will weld on tubular material of a variety of sizes and thicknesses. Square and/or round tube will be fabricated to mate at several common angles using power tools and equipment.

MFAB 250   Fabrication Practices II* (3 Hours)
Prerequisites : MFAB 215.
Upon completion of this class, the student should be able to work from discipline specific drawings to manufacture and assemble a mock piping loop, storage tank/vessel, and miscellaneous parts. This class is intended to serve all MFAB graduate students and current MFAB students who have completed the fundamental skills coursework within the metal fabrication certificate or degree programs. The Fabrication Practices II class is part two of an advanced comprehensive class intended to put to practical use the skills obtained throughout the existing Metal Fabrication and Welding Technology Career program. This class will put emphasis on pressure holding tanks and pressure vessels. Coursework will focus on modern welded fabrication techniques and practices used in the manufacturing and installation of steel pipe, tank and vessel systems, and miscellaneous welded mechanical structural items. Students will work in teams of three or four persons.

MFAB 255   Advanced Machine Tool Technology* (3 Hours)
Prerequisites or corequisites: MFAB 128.
This course provides students further instruction and practice on machine tool operations. Advanced techniques using lathes, milling machine, drill presses and precision grinders and the use of specialized tooling, clamps and jigs are covered. Machining techniques requiring special applications such as steady rest, and centering techniques will be addressed. Students will learn the various techniques of working with stock to produce parts from drawing, plans and sketches. Hardening, tempering and basic metallurgy will also be covered.

MFAB 259   Shielded Metal Arc Welding (SMAW) III* (3 Hours)
Prerequisites : MFAB 205.
Upon successful completion of this course, the student should be able to weld one-inch thick groove joints in the flat (1G), horizontal (2G), vertical up, (3G) and overhead (4G) weld positions, with and/or without backing to industry standards. The course will cover unlimited thickness qualifications. Students will use heat sensing tools and equipment to pre heat, maintain inter-pass temperature, and properly post heat selected welds. Students will perform a welding proficiency test equal to or exceeding the American Welding Society (AWS) standard D1.1. Structural welding code. Students will be expected to provide basic hand tools and/or equipment.

MFAB 271   Metal Fabrication Internship* (3 Hours)
Prerequisites : Department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 15 hrs. minimum on-the-job training/wk.

MFAB 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Music (MUS)

Courses

MUS 121   Introduction to Music Listening (3 Hours) ▷
This course is designed to enhance student music listening. Students will learn to identify changes in the elements of music through the different stylistic periods of classical music. Factual and historical information will be presented to broaden the student's cultural and music appreciation. Students will hear recorded examples of music from the Medieval, Renaissance, Baroque, Classical, Romantic and 20th-century eras, as well as popular American forms and music from non-Western cultures.

MUS 123   Introduction to Music Fundamentals (2 Hours)
This course is designed to present the fundamentals of music theory to students who have no previous background or training in that subject. Students will receive detailed instruction in naming notes; scales and chords; building intervals; and correlating these skills to the keyboard.

MUS 124   Basic Music for the Elementary Classroom (2 Hours) ▷
This course is designed to prepare the future classroom teacher in the fundamentals of music and awareness of the foundations of elementary school music. Students will also engage in a series of projects that introduce integration of music in the elementary classroom. This will be accomplished through application of musical concepts through classroom recorder playing, and a repertoire of standard songs for elementary age singers. 2 hrs. lecture/wk.

MUS 125   Introduction to Jazz Listening (3 Hours)
This is an entry-level course for the student with little or no prior knowledge of the American art form of jazz music. Through reading and listening, the student will learn the basic structure of the elements of music and how these are organized to create jazz. Topics to be covered will include rhythm, harmony, and form; Dixieland style; swing style; bop; and contemporary jazz.

MUS 126   Introduction to World Music (3 Hours)
This course provides students with an introduction to the musical heritage of the world. Through an interdisciplinary approach targeting the arts, humanities and social sciences, the course fosters skills necessary to gain a deeper appreciation of both familiar and unfamiliar musical traditions. The course will survey a representative cross section of the major musical traditions of the world, which may include Native American, Black American, sub-Saharan African, Eastern European/Bosnian, Indian, Indonesian, Japanese and Latin American/Brazilian traditions. Note: The course does not require the ability to read music.

MUS 128   History of Rock and Roll Music (3 Hours)
Through the study of the history of Rock and Roll music, students will discover how the various styles and structures of Rock have evolved, and how these styles reflected the social and cultural events in each stylistic era. By studying this history the students will also learn about the major Rock artists and what their contributions were to the development of the art form and the social climate in which the artist lived. The course will also address the role of technology on the development of the music and the music business.

MUS 131   Sight-Singing and Ear Training I (2 Hours)
This course is an introduction to sight singing and ear training. Basic methods of reading music are presented and practiced. Students are also trained to recognize aurally and notate the basic elements of music: intervals, diatonic melodies, simple rhythms, chord qualities, and basic harmonic progressions. The content is designed to complement the Harmony I course, though it is not necessary they be taken in the same semester.

MUS 132   Sight-Singing and Ear Training II* (2 Hours)
Prerequisites : MUS 131.
This course is a continuation of the class Sight-singing and Ear Training I. The content is designed to complement the Harmony II course though it is not necessary they be taken in the same semester.

MUS 141   Music Theory: Harmony I (3 Hours) ▷
This course is a basic study of the harmonic system sited in Western music composed from 1650 to 1900 and still in use in areas of music composition. Students will learn the basic skills involved in writing and analyzing music of this nature, as well as play simple chord progressions on the piano.

MUS 142   Music Theory: Harmony II* (3 Hours) ▷
Prerequisites : MUS 141 or department approval.
Harmony II is a continuation of the study of the harmonic system used in music composed from 1650 to 1900 and still in use in certain areas of music composition. The course covers use of non-harmonic tones, supertonic and dominant sevenths, functions of the submediant and mediant triads, advanced melodic writing and secondary dominant chords. Student will learn to harmonize melodies at the keyboard and play simple chord progressions on the piano. Music of the period will be analyzed. Selected software programs will enhance student skills and understanding.

MUS 143   Music Theory: Harmony III* (3 Hours)
Prerequisites : MUS 142 or department approval.
This is a continuation of the study of the harmonic system used in all music composed from 1650 to 1900 and still in use in many areas of music composition today. Important topics include devices of modulation, binary and ternary, and 12 bar blues musical forms and application of part writing procedures to instrumental music. Particular attention will be paid to the nature and functions of diatonic seventh chords, secondary dominants, borrowed chords and Neopolitan chords. Students will work with keyboard harmony exercises of increasing difficulty. Selected software programs will enhance student skills and understanding.

MUS 145   Jazz/Commercial Music Theory I* (3 Hours)
Prerequisites : MUS 141.
Through the study of Jazz music theory, students will learn the basic elements that comprise the foundation of this style of music. Students will discover how Jazz and Commercial music is constructed, analyzed, and performed by learning intervals, scales, chords, chord progressions, form, and construction of melodies.

MUS 151   Mixed Vocal Ensemble I* (1 Hour)
Prerequisites : Audition and department approval.
Choral ensembles are open to participation by the student body. Choral experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved. This is a repeatable course and may be taken more than once for credit.

MUS 152   Mixed Vocal Ensemble II* (1 Hour)
Prerequisites : MUS 151 and department approval.
Choral ensembles are open to participation by the student body. Choral experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved.

MUS 153   Mixed Vocal Ensemble III* (1 Hour)
Prerequisites : MUS 152 and department approval.
Choral ensembles are open to participation by the student body. Choral experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved.

MUS 154   Mixed Vocal Ensemble IV* (1 Hour)
Prerequisites : MUS 153 and department approval.
Choral ensembles are open to participation by the student body. Choral experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved.

MUS 155   Introduction to the Recording Studio (2 Hours)
This course is design to provide a basic overview of the contemporary digital recording studio. Students will learn though demonstration and practice how to use current hardware and software used to produce music.

MUS 156   MIDI Music Composition (3 Hours)
MIDI Music Composition I is designed to create a technical and conceptual foundation for further studies in electronic music. Students will learn and demonstrate basic compositional techniques, including form, melody, rhythm and harmony. Also, the student will demonstrate the ability to use computers and software to create and perform music. Emphasis will be on developing skills appropriate to the beginning student for the purpose of creative and technical expression.

MUS 157   Introduction to Digital Audio* (3 Hours)
Prerequisites : MUS 155 or MUS 156.
Introduction to Digital Audio is designed to further develop skills acquired in MIDI Music Composition I. Students will practice using ProTools digital audio software, combined with a digital audio interface to record, edit and play back music. Students will be introduced to basic concepts of sound, and common audio effects, including reverb, delay and compression. Students will also further develop their compositional skills through demonstration and practice, and create audio recordings of their music.

MUS 158   Recording Studio I* (4 Hours)
Prerequisites : MUS 157.
This course is designed to develop both the creative abilities and technical skills needed to produce music using modern digital recording techniques and equipment. Students will acquire an increased proficiency with the operation of ProTools, the industry standard digital audio software, and the corresponding digital audio hardware. Students will demonstrate knowledge of microphone types and techniques by conducting simple recording sessions, from set-up to final mix.

MUS 159   Recording Studio II* (4 Hours)
Prerequisites : MUS 158.
This course is designed for the student interested in the continued development of the creative abilities and technical skills needed to produce music using modern digital recording techniques and equipment. Students will understand simple copyright types and procedures, and create an itemized budget to establish a digital project studio. Students will demonstrate advanced knowledge of ProTools, and apply final mastering techniques in order to compile a portfolio of original music for personal, academic or professional purposes.

MUS 160   Recording Studio Lab* (2 Hours)
Prerequisites : MUS 158.
This course is designed for students interested in learning how to work in a digital recording studio. Students will prepare for and conduct recording sessions and mix down sessions. Students will gain real world, hands-on experience as a studio musician, audio engineer and musical producer.

MUS 161   Chamber Choir I* (1 Hour)
Prerequisites : Audition and department approval.
This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities.

MUS 162   Chamber Choir II* (1 Hour)
Prerequisites : MUS 161 and department approval.
This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities.

MUS 163   Chamber Choir III* (1 Hour)
Prerequisites : MUS 162 and department approval.
This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities.

MUS 164   Chamber Choir IV* (1 Hour)
Prerequisites : MUS 163 and department approval.
This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities.

MUS 165   Music Composition I* (1 Hour)
Prerequisites : MUS 141 or department approval.
This entry-level course provides instruction in the craft of musical composition. Traditional compositional techniques and concepts will be studied through demonstration and practice. Students will learn correct notational procedures and compose melodies and short pieces for one or two live performers.

MUS 169   Voice Class I (2 Hours)
This is an entry level course for voice study in a group setting. No previous voice study or music instruction is required. Students will be introduced to the basic elements of proper vocal production, as well as techniques for practice, performance, and maintaining vocal health. Vocal technique is approached from a classical perspective, however, the class includes discussion on appropriate usage of the voice in different styles.

MUS 170   Voice Class II* (2 Hours)
Prerequisites : MUS 169.
This course is a continuation of Voice Class I, voice study in a group setting. Students will focus on the reinforcement of basic elements of proper vocal production, as well as techniques for practice, performance, and maintaining vocal health.

MUS 175   Songwriting* (2 Hours)
Prerequisites : Department approval.
Songwriting is intended for students that seek instruction in the craft of writing popular songs. Students will learn through demonstration, practice and group critiques, the basic skills of songwriting. These skills include the study of form, lyrics, melodic lines and harmony, and the preparation of charts. Students must be able to play an instrument and/or sing well enough to demonstrate their work.

MUS 176   Jazz Band I* (1 Hour)
Prerequisites : Audition and department approval.
This is an entry-level course in the jazz band performing format for the student with little or no experience in this course of study. The student will learn, through rehearsal and performance, the basic elements of music and how these are utilized in the jazz band. Topics will include simple rhythms, basic melodic construction and major scale construction.

MUS 177   Jazz Band II* (1 Hour)
Prerequisites : MUS 176 or department approval.
This is a beginning-level course for the student with at least one semester of prior jazz band experience. Through rehearsal and performance, the student will learn beginning elements of music as applied to the jazz band performing format. Topics covered will include syncopated rhythm, Dorian minor scales and blues form.

MUS 178 Jazz Band III* (1 Hour)
Prerequisites : MUS 177 or department approval.
This is an intermediate-level course for the student with at least two semesters of prior jazz band experience. Through rehearsal and performance, the intermediate levels of jazz band performance will be learned. Topics covered will include Latin style, Mixolydian scales and the 32-bar song form.

MUS 179 Jazz Band IV* (1 Hour)
Prerequisites : MUS 178 or department approval.
This is an advanced-level course for the student with at least three semesters of prior jazz band experience. Advanced elements of jazz music will be learned through rehearsal and performance. Topics covered will include Lydian scales and ensemble performance techniques.

MUS 185 Live Sound Production I (3 Hours)
This course is designed to teach the basic elements of sound, and the equipment and set-ups required to operate sound at live venues, like churches, live theaters or live musical venues. Students will learn techniques through demonstration, lecture and "hands-on" exercises in a professional facility. 4 hrs. integrated lecture/lab/wk.

MUS 186 Live Sound Production II* (3 Hours)
Prerequisites : MUS 185.
This course is designed to build upon and put into practice concepts learned in Live Sound Production I. Students will study "front of house" methods, monitoring practices, communication systems and troubleshooting. Students will also apply learned concepts to alternate sound systems through "hands-on" practicums.

MUS 187 Jazz Improvisation I* (2 Hours)
Prerequisites : Department approval.
This is an entry-level course for the student with little or no jazz improvisation experience. Through written work and performance on the instrument of choice, the student will learn the basic elements of jazz improvisation. Topics to be covered will include identification and performance of basic intervals, major scales, Dorian modes, Mixolydian modes, major seventh chords, minor seventh chords, dominant seventh chords and the basic blues form.

MUS 188 Jazz Improvisation II* (2 Hours)
Prerequisites : MUS 187 and department approval.
This is an advanced-level course for the student with at least one semester of jazz improvisation. Through performance on the chosen instrument and written studies, the student will learn advanced concepts of jazz improvisation. Topics to be covered include jazz performance style, construction of the improvised solo and 32-bar song form.

MUS 191 Concert Band I* (1 Hour)
Prerequisites : Department appropval.
This is an entry-level course in the concert band format for the student with little or no concert band experience. Students will learn the basic elements of music as related to the concert band through rehearsal and performance. Topics include counting and subdividing motifs into melodies; and differentiating between major and minor tonalities.

MUS 192 Concert Band II* (1 Hour)
Prerequisites : MUS 191 and department approval.
This is a beginning-level course in the concert band format for the student with at least one semester of prior concert band experience. Students will learn the beginning-level elements of music as related to the concert band through rehearsal and performance. Topics to be covered include odd meters, minor scales and homophonic texture.

MUS 193 Concert Band III* (1 Hour)
Prerequisites : MUS 192 and department approval.
This is an intermediate course for the student with at least two semesters of prior concert band experience. Through rehearsal and performance, the student will learn intermediate levels of the elements of music in the concert band format. Topics will include parade march style, concert march style and concert overture style.

MUS 194 Concert Band IV* (1 Hour)
Prerequisites : MUS 193 or department approval.
This is an advanced course for the student with at least three semesters of prior concert band performing experience. Through rehearsal and performance, the student will learn the advanced concepts of concert band performance. Topics will include polyphonic texture, concert suite style and medley style.

MUS 195 Vocal Jazz Ensemble I* (1 Hour)
Prerequisites : Audition and department approval.
This is an entry-level course in the vocal jazz performing format. Through rehearsal and public performance, the student will learn the basic elements of music as applied to vocal jazz. Topics will include 8th note swing, jazz syncopation and 32-bar song form.

MUS 196 Vocal Jazz Ensemble II* (1 Hour)
Prerequisites : MUS 195 and department approval.
This is a beginning-level course in the vocal jazz performing format. Through rehearsal and public performance, the student will learn the basic elements of music as applied to vocal jazz. Topics will include Dorian minor scales, Mixolydian scales and 12-bar blues form.

MUS 201   Chamber Ensemble I* (1 Hour)
Prerequisites : Department approval.
This is an entry-level course for the student with little or no experience in the chamber ensemble performing format. Through written work and performance on the chosen instrument, the student will learn the basic fundamentals of this performing medium. Topics to be covered will include tone quality, intervals and rhythmic patterns.

MUS 202   Chamber Ensemble II* (1 Hour)
Prerequisites : MUS 201 or department approval.
This is a beginning-level course for the student with at least one semester of experience in the chamber ensemble performing format. Through written work and performance on the chosen instrument the student will learn the basic fundamental of this performing medium. Topics to be covered will include minor scales, chord construction and compound rhythms.

MUS 203   Chamber Ensemble III* (1 Hour)
Prerequisites : MUS 202 or department approval.
This is an intermediate-level course for the student with at least two semesters of chamber ensemble experience. Through written work and performance on the chosen instrument, the student will learn intermediate-advanced concepts of chamber ensemble performance. Topics to be covered include sight reading, intonation and style.

MUS 204   Chamber Ensemble IV* (1 Hour)
Prerequisites : MUS 203 or department approval.
This is an advanced-level course for the student with at least three semesters of prior ensemble experience. Through performance on the chosen instrument, the student will learn the advanced concepts of chamber ensemble performance. Topics to be covered will include balance and cooperative expression.

MUS 221   Piano Class I (2 Hours) ⏵
This course provides a basic knowledge of music and the essential techniques required to play the piano. Students will learn essential musical terminology, including musical notation and symbols, major and minor key signatures, and the harmonization of melodies using tonic and dominant triads. Specific piano-related terminology will include finger exercises, basic keyboard repertoire using major and minor five-finger patterns, major and minor scales, major and minor triads in root position, ensemble playing of two to four parts, and the formation of good practice habits. Group Piano II should follow the successful completion of this course. Private piano lessons are encouraged for students who successfully complete both courses.

MUS 222   Piano Class II* (2 Hours) ⏵
Prerequisites : MUS 221 and department approval.
This is a beginning-level course that provides a basic knowledge of keyboard instruments. Students will learn and review musical terminology, musical notation and symbols, and specific piano-related terminology. Topics covered will include major and minor key signatures; exercises and repertoire using major and minor scales; exercises and repertoire using major, minor, diminished and augmented triads in root position and inversions; chord progressions; ensemble playing of two to four parts; and use of the damper pedal. This course is the continuation of MUS 221. Completion of this course should precede Applied Piano I. This course is for beginners able to progress at a fast pace, students with minimal previous experience or students who have completed MUS 221.

MUS 223   Piano Class III* (2 Hours)
Prerequisites : MUS 222 or department approval.
This is an intermediate course that provides a basic knowledge of keyboard instruments. Students will learn and review musical terminology, musical notation and symbols, and specific piano-related terminology. Topics covered will include major and minor key signatures; exercises and repertoire using major and minor scales and modes; exercises and repertoire using major, minor, diminished and augmented triads in root position and inversions; chord progressions; ensemble playing of two to four parts; and use of the damper pedal. This course is the continuation of MUS 222. Completion of this course should precede Applied Piano I. This course is designed for students who have completed one year of study or who have completed MUS 222.

MUS 226   Applied Guitar I (Class) (1 Hour)
Students will be provided with a foundation in guitar technique upon which to base further study of the instrument. The course consists of an introduction to the use of the guitar as a solo, accompaniment and ensemble instrument.

MUS 227   Applied Guitar II (Class)* (1 Hour)
Prerequisites : MUS 226 or department approval.
This continuation of MUS 226 builds a foundation in guitar technique upon which to base further study of the instrument. The course continues to teach techniques that enable students to use the guitar as a solo, accompaniment and ensemble instrument.

MUS 231   Applied Voice I (Private) (1 Hour)
This course is designed to introduce the student to beginning vocal technique, vocal vocabulary, performance experience and solo vocal repertoire. This is a repeatable course and may be taken more than once for credit.

MUS 232   Applied Voice II (Private)* (1 Hour)
Prerequisites : MUS 231.
This course uses private lessons to continue instruction in beginning vocal technique, vocal vocabulary, performance experience and solo vocal repertoire. This is a repeatable course and may be taken more than once for credit.

MUS 233   Applied Voice III (Private)* (1 Hour)
Prerequisites : MUS 232.
This course uses private lessons to continue instruction in beginning intermediate vocal technique, vocal vocabulary, performance experience and solo vocal repertoire. This is a repeatable course and may be taken more than once for credit.

MUS 234   Applied Voice IV (Private)* (1 Hour)
Prerequisites : MUS 233.
This course uses private lessons to continue instruction in intermediate vocal technique, vocal vocabulary, performance experience and solo vocal repertoire. This is a repeatable course and may be taken more than once for credit.

MUS 236   Applied Piano I (Private) (1 Hour)
This is an entry-level course for the student with little or no prior piano training. This course provides a basic knowledge of keyboard instruments. Students will learn essential musical terminology, musical notation and symbols, and specific piano-related terminology. Topics covered will include major and minor key signatures; exercises and repertoire using major and minor five-finger patterns; and exercises and repertoire using major and minor scales. This is a repeatable course and may be taken more than once for credit.

MUS 237   Applied Piano II (Private)* (1 Hour)
Prerequisites : MUS 236.
This is a beginning-level course for the student with at least one semester of prior applied piano study. Students will learn the intermediate-level concepts of piano performance. Topics to be covered will include major scales and the natural and harmonic forms of the minor scales, rhythmic patterns and subdivisions of duple and triple meter and the basic keyboard literature of the intermediate level. This is a repeatable course and may be taken more than once for credit.

MUS 238   Applied Piano III (Private)* (1 Hour)
Prerequisites : MUS 237.
This is an intermediate-level course for the student with at least two semesters of prior applied piano study. Students will learn the intermediate-level concepts of piano performance. Topics to be covered will include scale, the melodic form of the minor scale, rhythmic patterns and subdivisions of compound meter, and the basic keyboard literature of the intermediate level. This is a repeatable course and may be taken more than once for credit.

MUS 239   Applied Piano IV (Private)* (1 Hour)
Prerequisites : MUS 238.
This is an advanced-level course for the student with at least two semesters of prior applied piano study. Students will learn the intermediate level concepts of piano performance. Topics to be covered will include Dorian and Mixolydian modes, pentatonic scales and performance of a Chopin etude. This is a repeatable course and may be taken more than once for credit.

MUS 241   Applied Guitar I (Private) (1 Hour)
In this private study in basic guitar technique, emphasis will be upon playing position, posture, tone production and basic music reading skills. Students will begin with studies and short pieces. This is a repeatable course and may be taken more than once for credit.

MUS 242   Applied Guitar II (Private)* (1 Hour)
Prerequisites : MUS 241 or department approval.
This is a continuation of private study in basic guitar technique. Emphasis will be upon playing position, posture, tone production and basic music-reading skills. Students will begin with studies and short pieces. This is a repeatable course and may be taken more than once for credit.

MUS 243   Applied Guitar III (Private)* (1 Hour)
Prerequisites : MUS 242 or department approval.
In this private study in intermediate guitar technique, emphasis will be on playing position, posture, tone production and intermediate music reading skills. Students will progress toward playing literature requiring intermediate skill levels. This is a repeatable course and may be taken more than once for credit.

MUS 244   Applied Guitar IV (Private)* (1 Hour)
Prerequisites : MUS 243 or department approval.
In this continuation of private study in intermediate guitar technique, emphasis will be on playing position, posture, tone production and intermediate music reading skills. Students will progress toward playing literature requiring intermediate skill levels. This is a repeatable course and may be taken more than once for credit.

MUS 246   Applied Classical Guitar I (Private) (1 Hour)
Private study in basic classical guitar technique and repertoire. Emphasis will be upon classical left- and right-hand technique, playing position, posture, tone production and standard classical guitar literature. Students will begin with studies and short pieces. This is a repeatable course and may be taken more than once for credit.

MUS 247   Applied Classical Guitar II (Private)* (1 Hour)
Prerequisites : MUS 246 or department approval.
This continuation of private study in basic classical guitar technique and repertoire will emphasize classical left- and right-hand technique, playing position, posture, tone production and standard classical guitar literature. Students will continue with studies and short pieces, then progress toward longer pieces with the intent of performing these in a recital situation. This is a repeatable course and may be taken more than once for credit.

MUS 248   Applied Classical Guitar III (Private)* (1 Hour)
Prerequisites : MUS 247 or department approval.
In this private study in intermediate classical guitar technique and repertoire, emphasis will be on classical left- and right-hand technique, playing position, posture, tone production and standard classical guitar literature. Students will progress toward playing and performing more advanced pieces and guitar studies. This is a repeatable course and may be taken more than once for credit.

MUS 249   Applied Classical Guitar IV (Private)* (1 Hour)
Prerequisites : MUS 248 or department approval.
This continuation of private study in intermediate classical guitar technique and repertoire will emphasize classical left- and right-hand technique, playing position, posture, tone production and standard classical guitar literature. Students will progress toward playing and performing more advanced pieces and guitar studies.

MUS 251   Applied Brass I (Private) (1 Hour)
This is an entry-level course for the student with little or no experience in performing on a brass instrument. Through written exercises and performance on the instrument of choice, the student will learn the basic concepts of brass performance. Topics to be covered include tone production, basic musical intervals and major scales.

MUS 252   Applied Brass II (Private)* (1 Hour)
Prerequisites : MUS 251 or department approval.
This is a beginning-level course for the student with at least one semester of prior brass instrument study. Through written exercises and performance on the instrument of choice, the student will learn the beginning concepts of brass performance. Topics to be covered include embouchure development, minor scales and duple and triple rhythmic patterns.

MUS 256   Applied Percussion I (Private) (1 Hour)
This is an entry-level course for the student with little or no training in percussion instruments. The student will learn the beginning concepts of percussion performance. Topics to be covered include basic duple and triple rhythm, snare drum rudiments and basic snare drum performance patterns.

MUS 257   Applied Percussion II(Private)* (1 Hour)
Prerequisites : MUS 256 or department approval.
This is a beginning-level course for the student with at least one semester of prior instruction in percussion instruments. The student will learn beginning concepts of percussion performance. Topics to be covered include compound rhythm, snare drum rudiments and basic timpani skills.

MUS 258   Applied Percussion III (Private)* (1 Hour)
Prerequisites : MUS 257 or department approval.
This is an intermediate-level course for the student with at least two semesters of prior instruction in percussion instruments. The student will learn beginning concepts of percussion performance. Topics to be covered include snare drum rudiments, basic mallet percussion skills and suspended cymbal skills.

MUS 259   Applied Percussion IV (Private)* (1 Hour)
Prerequisites : MUS 258 or department approval.
This is an advanced-level course for the student with at least three semesters of prior instruction in percussion instruments. The student will learn advanced concepts of percussion performance. Topics to be covered include snare drum rudiments, crash cymbal techniques and drum set skills.

MUS 261   Applied Woodwind I (Private) (1 Hour)
This is an entry-level course for the student with little or no experience performing on a woodwind instrument. Through written exercises and performance on the instrument of choice, the student will learn the basic elements of woodwind performance. Topics to be covered include tone production, basic intervals and major scales.

MUS 262   Applied Woodwind II (Private)* (1 Hour)
Prerequisites : MUS 261 or depatment approval.
This is a beginning-level course for the student with at least one semester of prior woodwind study. The student will learn beginning concepts of woodwind performance on the chosen instrument through written exercises and performance. Topics to be covered include embouchure development, minor scales and duple and triple meters. This is a repeatable course and may be taken more than once for credit.

MUS 263   Applied Woodwind III (Private)* (1 Hour)
Prerequisites : MUS 262 or depatment approval.
This is an intermediate-level course for the student with at least two semesters of prior woodwind study. The student will learn the intermediate concepts of woodwind performance through written exercises and performance. Topics to be covered include chromatic scale, quadruple rhythmic patterns and chord construction.

MUS 264   Applied Woodwind IV (Private)* (1 Hour)
Prerequisites : MUS 263 or department approval.
This is an advanced-level course for the student with at least three semesters of prior woodwind study. Through written exercises and performance, the student will learn the advanced concepts of woodwind performance. Topics to be covered include pentatonic scale, whole tone scale and melodic contour.

MUS 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

MUS 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the study of music technology, not usually taught in the curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Neurodiagnostic Technology (NDT)

Courses

NDT 125   Introduction to Neurodiagnostic Technology* (4 Hours)
Prerequisites : Admission to the Neurodiagnostic Program.
Corequisites: NDT 130 and NDT 135.
This course provides an introduction to Neurodiagnostic Technology (NDT) including history, concepts, techniques, and instruments used in recording brain activity. Students will engage in a variety of learning activities to explore the Neurodiagnostic career field and establish foundational concepts used in later courses. In the lab, students will receive hands- on experience using the internationally recognized method to describe the location of scalp electrodes (International 10-20 System). Emphasis will be placed on ensuring electrical safety, electrode application, patient interaction, developing an accurate patient history, careful handling of the patient, reviewing normal electroencephalographic (EEG) activity, identifying normal variants and artifacts. The course will use a blended approach that ties the classroom concepts to performing an EEG in the lab.

NDT 130   Foundations of Neurodiagnostic Technology* (3 Hours)
Prerequisites : Admission to the Neurodiagnostic Program.
Corequisites: NDT 125 and NDT 135.
Students will engage in a variety of learning activities to build on neurodiagnostic technology knowledge to perform diagnostic procedures and react to patient responses in the clinical setting. This course is designed to build on learned concepts of anatomy and physiology. Emphasis will be on neurobiological processes and patient responses to medication and diseases. Students will explore medications that affect the cellular function of the nervous system and how chemical interactions alter the electroencephalogram (EEG). Students will also study how medications treat or alleviate symptoms of neurological disorders.

NDT 135   Pediatric Neurodiagnostic Technology I* (5 Hours)
Prerequisites : Admission to the Neurodiagnostic Program.
Corequisites: NDT 125 and NDT 130.
This course will discuss pediatric terminology as it relates to the Neurodiagnostic Technology (NDT) field. Students will study the development of the brain from premature infants to older children and its correlations on the electroencephalogram (EEG). Students will learn to assess pediatric electrographic activity in a variety of ranges including pediatric EEG variants, normal and abnormal categories, as well as seizure patterns. In the lab students will develop the skills necessary for accurate electrode placement and application on pediatric patients. A variety of learning activities will allow students to perform an EEG in the lab prior to performing an EEG in the clinical setting. Course instruction will occur using a blended approach that focuses on active engagement of the student in the classroom and simulated lab setting.

NDT 140   Adult Neurodiagnostic Technology I* (4 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 125 with a grade of "C" or higher and NDT 130 with a grade of "C" or higher and NDT 135 with a grade of "C" or higher.
Corequisites: NDT 145 and NDT 150 and NDT 156.
This course will expand on adult terminology as it relates to the Neurodiagnostic Technology (NDT) field. Students will learn the maturation of the brain from adolescent through the geriatric patient, normal and abnormal activity, and electroencephalographic (EEG) variants and seizure disorders will be discussed. In the lab, students will apply concepts of electrode placement to the adult patient. A variety of learning activities will allow students to perform an EEG in the lab prior to performing an EEG in the clinical setting. Course instruction will occur using a blended approach that focuses on active engagement of the student in the classroom and simulated lab setting.

NDT 145   Pediatric Neurodiagnostic Technology II* (4 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 125 with a "C" or higher and NDT 130 with a "C" or higher and NDT 135 with a grade of "C" or higher.
Corequisites: NDT 140 and NDT 150 and NDT 156.
This course will expand on the concepts presented in Pediatric Neurodiagnostic Technology I and begins to correlate electroencephalographic (EEG) patterns with varying disease processes including infectious, toxic, and metabolic disorders. Students will also examine the effect of trauma, cerebral vascular accidents, genetic disorders, and differential diagnosis with the use of EEG. In the lab, the students will continue to perfect their skills in applying the electrodes in an efficient manner while addressing specific patient needs and mental capacity. Course instruction will use a blended approach that focuses on active engagement of the student in the classroom, lab, and in the simulation center.

NDT 150   Neurodiagnostic Clinical Correlates* (2 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 125 with a grade of "C" or higher and NDT 130 with a grade of "C" or higher and NDT 135 with a grade of "C" or higher.
Corequisites: NDT 140 and NDT 145 and NDT 156.
This course explores the process of comparing and contrasting patient's diagnostic tests, age, past medical history, physical health, and symptoms to assist the physician in the development of a differential diagnosis. Students will have the opportunity to compare case studies to normal and abnormal electroencephalogram (EEG) patterns to construct clinical correlations. Students will engage in a variety of activities to explore EEG specific activation procedures, artifacts on the EEG, and identify activity that requires physician intervention.

NDT 156   Neurodiagnostic Clinical I* (2 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 125 with a grade of "C" or higher and NDT 130 with a grade of "C" or higher and NDT 135 with a grade of "C" or higher.
Corequisites: NDT 140 and NDT 145 and NDT 150.
This course provides opportunities for entry-level Neurodiagnostic Technology (NDT) students to apply concepts, skills, and techniques of performing electroencephalograms (EEG's) in the clinical setting. Students will work with patients under supervision to further develop their skill and understanding of basic NDT procedures.

NDT 225   Polysomnography* (5 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 140 with a grade of "C" or higher and NDT 145 with a grade of "C" or higher and NDT 150 with a grade of "C" or higher and NDT 156 with a grade of "C" or higher.
Corequisites: NDT 230 and NDT 240.
This course will provide a comprehensive study of Polysomnography (PSG) including: the history of sleep medicine, neurophysiologic mechanisms of normal sleep, cardiopulmonary anatomy and physiology as it relates to sleep medicine, electrocardiogram (ECG) interpretation, sleep study equipment, disease processes and conditions which adversely affect sleep, patient and equipment preparation, PSG monitoring and documentation, sleep study scoring, and therapeutic interventions associated with PSG procedures.

NDT 230   Adult Neurodiagnostic Technology II* (3 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 140 with a "C" or higher and NDT 145 with a "C" or higher and NDT 150 with a "C" or higher and NDT 156 with a grade of "C" or higher.
Corequisites: NDT 225 and NDT 240.
This course will expand on concepts acquired in Adult Neurodiagnostic Technology I and include discussion of the effects of trauma and cerebral vascular accidents as well as the use of EEG in differential diagnosis. Students will correlate electroencephalographic (EEG) patterns with clinical conditions. This course reinforces the role of the neurodiagnostic technologist in aiding the physician with differential diagnosis of patients. Students will have the opportunity to refine knowledge and skills related to equipment and modifications of the neurodiagnostic procedures based on current patient information in the co-requisite clinical course.

NDT 240   Neurodiagnostic Clinical II* (4 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 140 with a grade of "C" or highrer and NDT 145 with a grade of "C" or higher and NDT 150 with a grade of "C" or higher and NDT 156 with a grade of "C" or higher.
Corequisites: NDT 225 and NDT 230.
This course is the second in a series of three clinical courses in the Neurodiagnostic Technologist (NDT) program. Students will build on fundamental neurodiagnostic knowledge and skills acquired in the first NDT course to provide a safe recording environment while performing neurodiagnostic recordings. Students will have the opportunity to work with patients under supervision to develop their skills and understanding of NDT procedures. 240 hrs. clinical/total.

NDT 245   Neurodiagnostic Related Modalities* (3 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 225 with a grade of "C" or higher and NDT 230 with a grade of "C" or higher and NDT 240 with a grade of "C" or higher.
Corequisites: NDT 250 and NDT 256.
This course explores neurodiagnostic modalities and their use of basic electroencephalographic (EEG) principles. Students will build on fundamental neurodiagnostic concepts to compare and contrast instrumentation, recording parameters, and applications for evoked potential, nerve conduction, and electrocorticography studies. The content will differentiate among continuous, long-term and intraoperative monitoring, and discuss the role of the neurodiagnostic technologist while performing neurodiagnostic related modalities. Learning will occur in the classroom setting.

NDT 250   Neurodiagnostic Program Capstone* (3 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 225 with a grade of "C" or higher and NDT 230 with a grade of "C" or higher and NDT 240 with a grade of "C" or higher.
Corequisites: NDT 245 and NDT 256.
This course is designed as a capstone experience for the neurodiagnostic program. Students will prepare for the American Board of Registration of Electroencephalographic and Evoked Potential (ABRET) part II exam and the Board of Registered Polysomnographic Technologists (BRPT) examinations. Exploration of career options and challenges will also occur. Upon successful completion students will demonstrate knowledge, skills and abilities expected of an entry level Neurodiagnostic Technologist(NDT.) A completed group project will document experiences and the knowledge base needed to assume the role of an NDT.

NDT 256   Polysomnography Clinical* (4 Hours)
Prerequisites : Admission to the Neurodiagnostic Program and NDT 225 with a "C" or higher and NDT 230 with a "C" or higher and NDT 240 with a grade of "C" or higher.
Corequisites: NDT 245 and NDT 250.
This course is the clinical application of sleep related diagnosis and treatment. Students will have the opportunity to work with patients under close supervision to develop their skill and understanding of polysomnographic (PSG) procedures.

Nursing (NURS)

Courses

NURS 101   Foundational Concepts of Nursing I* (9 Hours)
Prerequisites : Admission to the Nursing Program.
Corequisites: NURS 102.
Prerequisites or corequisites: BIOL 227 with a grade of "C" or higher.
Students will engage in a variety of learning activities to build nursing knowledge and skills necessary to care for patients and families who present with diverse characteristics across the healthcare continuum spanning from wellness to illness. The course establishes a foundation of concepts that students will use and expand upon in subsequent courses. These concepts will build the necessary skills to meet program outcomes including clinical judgment, critical thinking, collaboration, professionalism and ethical practices, leadership, accountability, teaching and learning, caring and sensitivity for diverse populations, and safety and health care quality practices. Students will apply theoretical concepts and exemplars across the lifespan providing a plan of care based upon principles of clinical judgment. The theoretical concepts and applicable exemplars will encompass health promotion, health maintenance, and common physiological and behavioral health alterations which are relevant to our community and population needs. Course instruction will occur using a blended approach that focuses on active engagement of the student in all learning environments, which includes the classroom, the Health Resource Center, the Healthcare Simulation Center, and a variety of healthcare agencies, including acute care facilities and community sites in the Kansas City Metropolitan area.

NURS 102   Health Assessment and Skills for Nursing Practice* (3 Hours)
Prerequisites : Admission to the Nursing Program.
Corequisites: NURS 101.
Prerequisites or corequisites: BIOL 227 with a grade of "C" or higher.
This hybrid course uses a variety of methods to provide students with a basic understanding and working knowledge of health assessment and associated psychomotor skills in a diverse population of patients across the lifespan. The course is divided into modules that correlate with the bodily systems, including preparation for co-requisite and subsequent content including a diverse array of patients across the lifespan. Hybrid learning environments will include both classroom and simulated lab settings. Students are evaluated utilizing a variety of methods which may include audiovisual recordings.

NURS 105   Foundational Concepts of Nursing II* (9 Hours)
Prerequisites : Admission to the Nursing Program and NURS 101 with a grade of "C" or higher and NURS 102 with a grade of "C" or higher.
Prerequisites or corequisites: PSYC 218 with a grade of "C" or higher.
Building upon concepts introduced in semester one, students will engage in a variety of learning activities to build knowledge and skills necessary to care for a variety of patients and families who present with diverse characteristics across the healthcare continuum spanning from wellness to illness. Course concepts and skills will be leveled to meet course outcomes which are based upon the program principles of clinical judgment, critical thinking, collaboration, professionalism and ethical practices, leadership, accountability, teaching and learning, caring and sensitivity for diverse populations, and safety and health care quality practices. Students will apply theoretical concepts and exemplars across the lifespan providing a plan of care based upon principles of clinical judgment. The theoretical concepts and applicable exemplars will encompass health promotion, health maintenance, and common physiological and behavioral health alterations which are relevant to our community and population needs. Course instruction will occur using a blended approach that focuses on active engagement of the student in all learning environments, which includes the classroom, the Health Resource Center, the Healthcare Simulation Center, and a variety of healthcare agencies, including acute care facilities and community sites in the Kansas City Metropolitan area.

NURS 155   Transitional Concepts for the LPN to RN Role* (6 Hours)
Prerequisites : Admission to the Nursing Program.
Corequisites: NURS 102.
This course is an introduction to the second year of the associate degree nurse (ADN) program for graduates of licensed practical nurse (LPN) programs. Students will engage in a variety of learning activities to build knowledge and skills necessary to care for a variety of patients and families who present with diverse characteristics from wellness to illness across the lifespan. Course concepts and skills will be leveled to meet course outcomes which are based upon the program principles of clinical judgment, critical thinking, collaboration, professionalism and ethical practices, leadership, accountability, teaching and learning, caring and sensitivity for diverse populations, and safety and health care quality practices. Through the concurrent enrollment in the Health Assessment course, students will engage in an in-depth examination of physical assessment and psychomotor/communication skills which will prepare them for transition to the associate degree nursing program. Course instruction will occur using a blended approach that focuses on active engagement of the student in all learning environments, which includes the classroom, the Health Resource Center, the Zamierowski Family Center for Healthcare Simulation and a variety of healthcare agencies, including acute care facilities and community sites in the Kansas City Metropolitan area.

NURS 201   Complex Concepts of Nursing I* (9 Hours)
Prerequisites : Admission to the Nursing Program and NURS 105 with a grade of "C" or higher and PSYC 218 with a grade of "C" or higher.
Increasing in complexity, students will engage in a variety of learning activities to build nursing knowledge and skills necessary to care for a variety of patients and families who present with diverse characteristics across the healthcare continuum spanning from wellness to illness. Course concepts and skills will be leveled to meet course outcomes which are based upon the program principles of clinical judgment, critical thinking, collaboration, professionalism and ethical practices, leadership, accountability, teaching and learning, caring and sensitivity for diverse populations, and safety and health care quality practices. This course will focus on more complex physiological and behavioral health alterations. In the clinical settings, students will be expected to prioritize care for those increasingly more complex patients applying theoretical concepts and exemplars across the lifespan providing a plan of care based upon principles of clinical judgment. Course instruction will occur using a blended approach that focuses on active engagement of the student in all learning environments, which includes the classroom, the Health Resource Center, the Healthcare Simulation Center, and a variety of healthcare agencies, including acute care facilities and community sites in the Kansas City Metropolitan area.

NURS 205   Complex Concepts of Nursing II* (9 Hours)
Prerequisites : Admission to the Nursing Program and NURS 201 with a grade of "C" or higher .
This final course in the nursing program will enable students to manage care for a team of patients experiencing complex multisystem physiological and behavioral health alterations across the lifespan. Students will apply critical thinking, clinical judgment, and organizational skills with increasing independence. This course integrates the knowledge and skills acquired in the previous four nursing courses that facilitate student transition to professional nursing practice. Students will become increasingly confident and proficient in achieving the following program outcomes: collaboration, professionalism and ethical practices, leadership, accountability, teaching and learning, caring and sensitivity for diverse populations, and safety and health care quality practices. Course instruction will occur using a blended approach that focuses on active engagement of the student in all learning environments, which includes the classroom, the Health Resource Center, the Healthcare Simulation Center, and a variety of healthcare agencies, including acute care facilities and community sites in the Kansas City Metropolitan area.

NURS 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

NURS 292   Special Topics:* (1-7 Hour)
Prerequisites : Admission to the Nursing Program or Department approval .
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of Nursing, not offered in the normal curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Philosophy (PHIL)

Courses

PHIL 121   Introduction to Philosophy (3 Hours) ⊺▷
Students will examine the basic questions of philosophical inquiry, such as the nature of being, and the ways humans acquire knowledge and moral, social, religious and political values. Emphasis is on the application of the study of traditional problems of philosophy to the study of contemporary society.

PHIL 124   Logic and Critical Thinking (3 Hours) ⊺▷
This course examines the basic elements of formal and informal reasoning. Topics include the elements of argumentative discourse, informal fallacies, inductive and deductive arguments, and propositional logic. The class also focuses on the analysis and evaluation of argumentative discourse in a variety of everyday and academic contexts.

PHIL 128   Environmental Ethics (3 Hours)
This course provides a survey of environmental ethics. It focuses on the emergence of environmental issues as a topic of careful philosophical study and its connection to the political and legal considerations of environmental problems. It also examines various theories and traditional approaches developed in Western and Eastern philosophy as well as major world religions to understanding the value and status of nature. Lastly, this course looks at specific controversies pertaining to the conservation, use and value of natural resources.

PHIL 130   Food Ethics (3 Hours)
This course provides a survey of food ethics. It focuses on the emergence of food ethics as a topic of careful philosophical study and its connection to environmental ethics and other issues in moral and political philosophy. This course contextualizes food ethics within the broader framework of moral philosophy, examining various theoretical approaches and perspectives developed in Western and Eastern philosophy. Lastly, this course looks at specific controversies pertaining to the production, marketing, distribution, and consumption of food resources.

PHIL 140   Business Ethics (3 Hours)
Business Ethics is a branch of applied ethics that attempts to understand, evaluate and critique business practices in the light of moral principles and values. This course introduces students to important elements of moral theory as well as main topics in Business Ethics, including the fiduciary duty of managers, outsourcing, corporate responsibility, whistleblowing, income smoothing, insider trading, sole-source procurements and kickbacks, conflicts of interest, legitimate vs. illegitimate write-offs, deception in advertising and marketing, responsibility to the environment, pay for corporate personnel, and interpersonal relationships in the workplace, among others. 3 hrs. lecture/wk.

PHIL 142   History of Asian Philosophy (3 Hours)
This course provides a thorough exploration of the philosophical traditions of Asia with a focus on the classical philosophies of India and China. Covered are the origins of Indian philosophy in the Vedas and Upanishads, the development of various Vedic schools of thought. The origins of Buddhism and Jainism are also explored. The development and influence of Confucianism, Daoism and Chinese Buddhism are covered as well, as is the lasting influence of Asian philosophy outside of both India and China including its increasing relevance in the West. In the process, the class provides a comprehensive understanding of the distinctive philosophical foundations of the Asian world view.

PHIL 143   Ethics (3 Hours) ⏵
This course provides a systematic and critical study of values related to human conduct. It focuses on both traditional standards of ethical conduct and qualities of personal character. What we hold to be right or wrong, the basis for believing so, and what we consider to be virtues or vices are examined with an eye to understanding our current ethical situation.

PHIL 154   History of Ancient Philosophy (3 Hours)
This course provides a thorough exploration of ancient Greek and Roman philosophical thought from the original efforts of the Pre-Socratics to understand the fundamental operations of the natural world to concerns about the way a person might live successfully in nature and society. Also explored are the notable Athenians of the classical period, Protagoras, Socrates, Plato and Aristotle, and the later schools of thought such as cynicism, skepticism, hedonism and stoicism. In the process, it provides a comprehensive understanding of the philosophical foundations of the Western world view.

PHIL 155   Bioethics* (3 Hours)
Prerequisites : BIOL 121 or Department approval.
This course introduces students to the scientific, ethical and legal issues relevant to the discipline of biology and those raised by the rapid development of new biological technologies. Students will examine the major theories of ethics, including deontology, utilitarianism, and select others. Topics include: beginning of life issues such as contraception, abortion, and nontraditional methods of human reproduction; end of life issues such as advance healthcare directives and physician-assisted suicide; and other issues such as experimentation on human and animal subjects and human environmental impacts. EVRN 155 and PHIL 155 are the same courses; only enroll in one.

PHIL 176   Philosophy of Religion (3 Hours)
This course is an inquiry into the nature of religion, religious thought and religious language. It addresses philosophical topics such as the nature of religious belief, the apparent need of some people for religion, the arguments offered as proof for and against the existence of God, apparent contradictions between scientific and religious teachings, special problems raised by religious language, and the changes religion and philosophy of religion have made to accommodate a modern world view.

PHIL 177   Feminist Theory (3 Hours)
This course is an introduction to feminist thought through some of its major theories, figures, and issues. We will address various questions regarding gender relations and inequalities, what feminism is, and how feminist concerns intersect with issues related to class, race, ethnicity, and the environment. We will consider feminist perspectives regarding contemporary ethical and political issues as well. Throughout the course, we will critically examine a range of perspectives and their applications in order to develop a deeper understanding of feminist thought in theory and practice.

PHIL 210   History of Modern Philosophy (3 Hours)
This course takes a historical approach to the development of modern philosophy and covers the period from the Renaissance to the end of the 18th century. The course covers the epistemological, metaphysical and relevant axiological issues of the major philosophers and philosophical movements of this period. The course will also examine the influence of modern philosophy on contemporary thought.

PHIL 292   Special Topics:* (3 Hours)
Prerequisites or corequisites: PHIL 121 with a grade of "C" or higher or PHIL 143 with a grade of "C" or higher.
This course periodically offers specialized or advanced discipline-specific content related to the study of philosophy not usually taught in the curriculum to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Photography (PHOT)

Courses

PHOT 100   Photography Basics (3 Hours)
Photography Basics covers camera operation, basic workflow, and preparing images for social media. Consumer grade cameras are covered including cell phones, point and shoot, and consumer DSLRs, accompanied by discussions, readings, and/or lectures regarding the historical, ethical, critical, and theoretical concerns of the medium.

PHOT 200   Foundations in Photography (3 Hours)
Foundations in Photography covers camera operation, workflow, and both digital and analog printing methods. Methods explored are accompanied by lectures, readings, and discussions regarding the historical, ethical, critical, and theoretical concerns of the medium. This course facilitates instruction in photography as a fine art medium by researching social, political, and psychological topics, as required for the foundation of creating conceptually forward artwork. Writing artist statements and presenting work during class critiques are required. Diverse artists and photographers are included in lectures and the ethical implications of photography, and its representations of marginalized communities are discussed. A digital camera with full manual controls with RAW capabilities and a 35 MM film camera with full manual controls are required. JCCC has cameras available for student check-out.

PHOT 201   Photography I* (4 Hours)
Prerequisites : PHOT 200.
This is the first of the two-part foundational Photography sequence. This course provides students with a rigorous immersion into the formal, technical, and conceptual concerns and challenges of photography by way of the 4X5, large format, view camera. Embracing both the wet and digital darkrooms, students shoot and develop sheet film that is then utilized to produce both traditional and digital prints. Intermediate digital editing methods are introduced and explored. View cameras are provided.

PHOT 202   Photography II* (4 Hours)
Prerequisites : PHOT 201.
This is the second of the two-part foundational Photography sequence. This advanced course builds upon the skills and knowledge learned in PHOT 201, Photography I with an additional emphasis on color, RAW workflow, and advanced methods for digital capture, manipulation, editing, and composition. Additionally, students work extensively with large-format, fine art, inkjet printers to create custom ICC printing profiles. A digital SLR (RAW capable) camera with full manual controls is required. JCCC has cameras available for student check-out. This class concentrates on both the development of craft and preparing students to more deeply examine their personal interests in the medium. Emphasis will be placed on exploring color photography historically, technically, and personally through presentations, readings, and photographing / studio work. Students will study advanced methods for digital capture, tonal and color correction, automatic file processing, large scale printing, and optimal ways to prepare digital files for a variety of reproduction processes.

PHOT 223   Studio Photography* (3 Hours)
Prerequisites : PHOT 200.
This course provides an introduction to advanced techniques, tools, procedures and concepts of studio lighting. Students will use professional camera and studio equipment, including studio electronic flash and hand-held light/flash meters. This course also includes advanced camera techniques for total image control. Students will use studio lighting to shoot photographs that will then be printed and finished for gallery presentation. The medium is explored for both its technical and conceptual merit as a medium of fine art. Applications of digital photography as they apply to studio photographic processes will also be explored. Ethical implications of photographs will be discussed. Students will apply the above to make images for a series of advanced studio assignments.

PHOT 224   Experimental Processes* (3 Hours)
Prerequisites : PHOT 200.
Experimental Processes is an introduction to the understanding and production of image-based works utilizing experimental approaches and alternative processes in an interdisciplinary environment. The student will be creating images using historical, experimental, and alternative mediums and processes to create visual art.

PHOT 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

PHOT 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the study of photography, not usually taught in the curriculum. Due to the breadth and depth of the discipline, this course may expand upon a topic introduced in a current course, synthesize topics that cross-cut existing courses, or explore a topic not addressed currently in the Photography curriculum. Students may repeat Special Topics in Photography for credit but only on different topics. This is a repeatable course and may be taken more than once for credit.

PHOT 293   Photography Seminar* (3 Hours)
Prerequisites : PHOT 202 and PHOT 223 and PHOT 224 and Department approval.
Photography Seminar is an advanced photography class designed to aid students in the development of individual creative projects and bodies of work. This course will holistically instruct on the steps in portfolio development, image sequencing, exhibition preparation, and visual literacy. Students are required to submit a proposal and gain instructor permission for enrolling in this course. This is a repeatable course and may be taken more than once for credit.

Physical Ed, Health & Rec (HPER)

Courses

HPER 100   Basketball (Beginning) (1 Hour)
Students will have an opportunity to learn fundamental basketball skills through demonstration and discussion of strategies for team play. Emphasis is on individual participation. 2 hrs./wk.

HPER 101   Basketball (Intermediate)* (1 Hour)
Prerequisites : HPER 100.
Students will have an opportunity to learn intermediate basketball skills through demonstration and discussion of strategies for team play. This course will advance the skills of the student who successfully completed the beginning basketball course. Emphasis is on individual participation and competition team play.

HPER 104   Yoga (1 Hour)
This class will utilize techniques from yoga which aim to provide mind/body benefits including better posture and increased body awareness. Muscular strength and flexibility will be developed through poses and positions. This class will be geared toward all students, both beginners as well as those who have previous training. 2 hrs./wk.

HPER 106   Lifetime Sport: (1 Hour)
This course provides a basic knowledge of a lifetime sport which can be enjoyed throughout life and can enhance one's chances of well being and add to one's total fitness program. Students will learn fundamental skills for the lifetime sport as well as history, benefits, equipment, rules, etiquette, safety, scoring and strategy. This is a repeatable course and may be taken more than once for credit.

HPER 115   Soccer (1 Hour)
The fundamentals of soccer will be introduced as well as strategies necessary for team play. 2 hrs./wk.

HPER 117   Power Volleyball (Beginning) (1 Hour)
The basic skills of volleyball taught in this class include the forearm pass, overhead set, serve, block and spike (attacking). Elementary offense and defense along with volleyball rules, scoring and officiating will be covered. 2 hrs./wk.

HPER 118   Power Volleyball (Intermediate)* (1 Hour)
Prerequisites : HPER 117.
Students will have the opportunity to build upon the basic fundamentals of the Power Volleyball (Beginning) class. Intermediate skills, strategies, offensive and defensive systems and rules will be covered for six-player, four-player, three-player, and two-player volleyball.

HPER 124   Tai Chi I (1 Hour)
The class will introduce students to the practice of tai chi. Students will learn the basic structure, footwork and breathing involved in the execution of routines consisting of a variety of postures. 2 hrs./wk.

HPER 130   Running Awareness and Exercise (1 Hour)
The course will introduce the student to aerobic fitness through the activity of running. The training principles for running and competitive racing will be covered, and the individual will complete a personal running and/or racing training program. 2 hrs./wk.

HPER 134   Weight Training (Beginning) (1 Hour)
In this class, muscular strength and endurance will be developed through weight training activity. A workout program will be implemented for each student. The muscular system, basic terminology of weight training and weight training theory will be discussed. 2 hrs./wk.

HPER 135   Weight Training (Intermediate)* (1 Hour)
Prerequisites : HPER 134.
In this class, muscular strength and endurance will be developed. A self-designed and directed resistance workout program will be implemented. The proper use of a training log and personal fitness evaluation techniques will be discussed.

HPER 139   Pickleball (1 Hour)
Students will review the rules, terminology and history of pickleball. The student will receive instruction on the strokes of pickleball, as well as the strategies of singles and doubles play in a competitive format. Emphasis will be on the mental and physical conditioning of the game.

HPER 140   Modern Dance (Beginning) (1 Hour)
This course emphasizes the movement between positions rather than the picture-perfect poses of ballet and other dance styles. Moving through space off of and onto the floor, breathing and improvisational movement will be explored. 2 hrs./wk.

HPER 155   Ballet (Beginning) (1 Hour)
This progressive ballet system is designed to produce muscular strength and flexibility and a working knowledge of anatomy, plus the aesthetic satisfaction of expressing yourself through a classical art form. Offered to students of all ages and experience, both beginners as well as those who have had some training. 2 hrs./wk.

HPER 158   Jazz Dance (Beginning) (1 Hour)
An introduction to the concepts and motor skills involved with jazz dance. Basic body position will be introduced as well as basic terminology, jazz history, various jazz styles and the basic techniques involved, isolations, combinations, choreography and rhythmic influences. 2 hrs./wk.

HPER 174   Coaching and Officiating of Track and Field (2 Hours)

Students will have the opportunity to learn the fundamentals of coaching and officiating track and field events. Upon successful completion of the course, students will be prepared for USATF Level 1 certification. 2 hrs. lecture/wk.

HPER 175   Fencing (1 Hour)

Beginning foil fencing will provide the student with the fundamental rules and techniques of foil fencing. The student will utilize these skills in a fencing bout. The student will also be instructed in the rules and procedures of officiating foil fencing. 2 hrs./wk.

HPER 176   Self Defense I (1 Hour)

The class will present students with a variety of techniques for escaping a physical attack. Students will receive an introduction to the four ranges of self-defense: ground, grappling, striking and weapons. Students will learn the principles that apply in any self-defense situation and the basic positions and structure of each range. The class is appropriate for beginners as well as those with previous self-defense or martial arts training. 2 hrs./wk.

HPER 178   Performance Fitness I (1 Hour)

This course is an introductory course designed to provide basic introductory training concepts in individual skill and performance-based fitness. Physical activity tracking will be utilized in this course.

HPER 179   Performance Fitness II* (1 Hour)

Prerequisites : HPER 178.

Students will have the opportunity to learn the fundamentals of general performance fitness. Introductory aspects of performance, nutrition, and psychological development are incorporated into this class. Power and advanced power, speed, muscular strength, hypertrophy and endurance, cardiorespiratory, motor skills, and agility drills are taught and practiced. The class will include general performance-based fitness. The students will learn about the principle of year-round conditioning, including conditioning appropriate to the off-season, preparatory period, pre-competition period and competition period.

HPER 186   Fitness Assessment (2 Hours)

This course emphasizes the value of evidence-based fitness assessments to interpret overall personal and professional fitness. Assessments will be administered and evaluated to determine chronic risk factors and personal fitness levels. Goal setting, fitness tracking, and fitness programming will be introduced to help students discover and implement a healthy, sustainable lifestyle.

HPER 187   CPAT (Candidate Physical Ability Test) Fitness Preparation (1 Hour)

The job of a fire fighter is one of the most physically demanding jobs in North America. It requires high levels of cardiopulmonary endurance, muscular strength and muscular endurance. The Candidate Physical Ability Test (CPAT) consists of eight critical physical tasks that simulate actual job duties on the fireground. The CPAT test is physically demanding and requires that you be physically fit to be successful. This course is designed to assist you with physically preparing yourself for the CPAT test. Areas of focus will be on flexibility, cardiopulmonary endurance, muscular strength, and muscular endurance specific to the duties of a firefighter. Upon completion, the student will be prepared to complete the tasks needed for the CPAT exam. This is a repeatable course and may be taken more than once for credit.

HPER 192   Wellness for Life (1 Hour)

This course introduces students to the theory and principles upon which the concepts of lifetime fitness and wellness are based. Students will examine the relationship that exists between wellness and lifestyle behaviors. Individual self-assessments will be used to establish current health and fitness levels. 1 hr. lecture/wk.

HPER 195   Introduction to Sports Medicine (3 Hours)

The purpose of this class is to introduce the basic concepts of sports medicine, specifically Athletic Training. It will address the fundamentals of the human musculoskeletal system, sports-related injuries, injury treatment and other sports medicine-related topics. This class is designed for beginning athletic training students and other students interested in the subject. 3 hrs. lecture/wk.

HPER 200   First Aid and CPR (2 Hours) ⏏

After completing this course, students should be able to perform the basic skills of first aid. The course will cover cause, prevention and first aid care of common emergencies. Certification may be earned in first aid, cardiopulmonary resuscitation and automated external defibrillators (AED). 2 hrs. lecture/wk.

HPER 202   Personal Community Health (3 Hours) ⏏

This course is designed to provide the student with the knowledge and understanding to make positive, healthy lifestyle choices. In addition, students will learn about issues within the community that affect their daily health, both directly and indirectly. 3 hrs. lecture/wk.

HPER 204   Care and Prevention of Athletic Injury (3 Hours) ⏏

Care and Prevention of Athletic Injuries will focus on recognition, evaluation, treatment and recording of common athletic injuries. Human anatomy will be emphasized through the understanding of athletic movements and physical testing. Additional topics include legal and ethical practices for the athletic trainer and the psychology of today's competitive athlete. Care and Prevention of Athletic Injuries is the basic sports medicine class required by most exercise science and coaching degree programs.

HPER 209   Introduction to Kinesiology* (3 Hours)

Prerequisites or corequisites: BIOL 140 or BIOL 144.

This course is an overview of the skeletal system, muscular system, joints and nerves and how they produce human movement with an emphasis on bony landmarks, muscle origins, insertions, joint actions and innervations as it relates to proper exercise and human movement mechanics.

HPER 211   Foundation of Fitness Training (3 Hours)
Foundations of Fitness Training covers the theory and practice of individualized exercise prescription for personal training. This course introduces the student to the fundamental scientific concepts applicable to exercise and physical fitness. The foundations for personal training include: exercise science review, health risk stratification, fitness assessment, fitness program, and session design, proper execution of exercises, cuing and error correction, lifestyle coaching skills and considerations for special populations. The acute and chronic effects of exercise will be addressed with practical applications to fitness programming and instruction.

HPER 215   Introduction to Exercise Science (3 Hours) ⏏
This course will introduce students to the evolution of exercise science, the various sub-disciplines, basic terminology, concepts, and research related to exercise. Students will examine resources, potential careers and certification options in the field of exercise science.

HPER 220   Sports Officiating (3 Hours)
The rules and practical application of officiating will be covered for the following sports: volleyball, football, basketball, baseball and softball. 3 hrs. lecture/wk.

HPER 224   Outdoor Recreation (3 Hours)
This course introduces the student to activities that create interaction between the individual and elements of the outdoor recreational setting. Outdoor Recreation students study the fundamental basics of governmental, private and public control of recreational lands. Outdoor recreation projects include a variety of outdoor activities, such as camping, hiking, nature observation, biking, rock climbing, canoeing, skiing, map and compass, outdoor safety, and how to dress and pack for outdoor adventures. 3 hrs. lecture/wk.

HPER 225   Coaching Principles: Coaching Teams and Individuals for Success (3 Hours)
Being a successful coach is an enormous challenge. In this course the student will acquire basic skills that will prepare a new coach to lead a community youth team. This course will also provide the quality principles to become an assistant high school or college coach. Combined with these basics and further coaching experience one would be qualified to successfully lead a High School or College team.

HPER 240   Lifetime Fitness I (1 Hour)
Lifetime Fitness introduces the student to basic fitness principles, physical activity and the relationship to a healthy lifestyle. This class is designed to provide a variety of physical activity experiences. Students will gain an understanding of the necessary skills needed to develop and implement personal lifestyle improvements related to cardiovascular fitness, muscular strength, muscular endurance, flexibility and body composition. Physical activity tracking will be utilized in this course.

HPER 241   Lifetime Fitness II* (1 Hour)
Prerequisites : HPER 240.
This course is a continuation and expansion of Lifetime Fitness I.

HPER 245   Health and Physical Education for the Elementary Classroom Teacher (3 Hours) ⏏
This course is designed to meet the needs of students who wish to teach in the area of elementary education. This course will provide the students with knowledge, methods and materials for incorporating health and physical activity movement concepts into the classroom that are developmentally appropriate for the elementary school child. The course will include observation and teaching.

HPER 250   Introduction to Sports Management (3 Hours)
The sport industry has become a dominant influence in American society, and is evolving at a dramatic rate. Students will be introduced to the dynamic nature of sport management and the potential for successful and satisfying career opportunities in the sport industry, as well as sport principles as they apply to management, leadership style, communication, and motivation. This course serves as a foundation for students' further studies in various subject areas. The primary focus of this course will be to provide an overview of the sport industry and cover basic fundamental knowledge and skill sets of the sports manager, as well as potential job employment and career choices in the field/profession of sport management, such as sport marketing, sport law, sport facility and event management, economics of sport, and sport finance. 3 hrs. lecture/wk.

HPER 251   Sport and Society (3 Hours)
The sociology of sport examines how culture and values influence sports. As a sports manager, it is crucial to understand the relationship between sport and society. Students will be asked to make the connections between sports and the family, education, economy, age, politics, mass media, religion, and cultural identities such as race, gender, or disability. Students will be encouraged to look at the viewpoints of others through the world of sports and gain an understanding of how sports can be viewed as a reflection of society.

HPER 255   Introduction to Physical Education (3 Hours)
This course will introduce the student to the field of physical education and sport. This course will discuss the historical, biomechanical, physiological and psychological foundations of physical education and sport. It will examine the role of physical activity as a means to help individuals acquire the skills, fitness levels and knowledge that contribute to the arena of physical development and organized competition. It will also discuss the role physical education and sports play in our society. Each individual will develop a personal philosophy for physical education and sports. 3 hrs. lecture/wk.

HPER 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

HPER 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to health, physical education, wellness or exercise, not usually taught in the curriculum, to interested and qualified students. Students may repeat Special Topics in Health and Wellness for credit but only on different topics. This is a repeatable course and may be taken more than once for credit.

Physical Science (PSCI)

Courses

PSCI 120   Physical Science (4 Hours) ⊺▸
This course is an introduction to the fundamental concepts and principles of physics, chemistry, astronomy and the earth sciences. Topics include forces, energy, electricity, magnetism, modern physics, and chemical bonding. It is counted toward laboratory science requirements and is intended for non-science majors. The course includes presentation of material using audiovisual, computer and other multimedia aids. Three hours of class and three hours of work in a scheduled lab are required each week.

Physics (PHYS)

Courses

PHYS 130   College Physics I* (5 Hours) ⊺▸
Prerequisites : MATH 171 or an appropriate score on a math placement test.
In this introductory course for pre-professional and general education, students will learn the fundamentals of selected areas of classical physics. Using the tools of algebra and trigonometry, the course develops the topics of translational and rotational motion, force, work, mechanical and thermal energy, linear and angular momentum, and fluid mechanics. The two-semester PHYS 130/131 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course that meets the college's requirements for associate's degree programs and meets transfer requirements of area colleges and universities. This course does not normally fulfill the requirement of engineering programs. The course includes an integrated laboratory component the completion of which is a necessary part of the total instructional package.

PHYS 131   College Physics II* (5 Hours) ⊺▸
Prerequisites : PHYS 130.
In this introductory course for pre-professional and general education, students will learn the fundamentals of selected areas of classical physics. Using the tools of algebra and trigonometry, the course develops the topics of electricity and magnetism, waves, optics, and some modern physics. The two-semester PHYS 130/131 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course that meets the college's requirements for associate's degree programs and meets transfer requirements of area colleges and universities. This course does not normally fulfill the requirements of engineering programs. The course includes an integrated laboratory component the completion of which is a necessary part of the total instructional package.

PHYS 191   Math and Physics for Games I* (4 Hours)
Prerequisites : (MATH 171 with a grade of "C" or higher or MATH 173 with a grade of "C" or higher or appropriate score on math placement test) and GAME 121.
This introductory course focuses on the mathematics and physics concepts needed to program a variety of video game scenarios. Students will learn to use vectors and matrix transformations to model the motion of physical objects in two and three dimensions. Students will also learn various computer programming methods in order to model these mathematical and physical concepts. MATH 191 and PHYS 191 are the same course; enroll in only one.

PHYS 220   Engineering Physics I* (5 Hours) ⊺▸
Prerequisites or corequisites: MATH 242.
Engineering Physics I (and associated laboratory experience) is the study of translational and rotational motion, force, work, mechanical and thermal energy, linear and angular momentum, mechanical waves, and fluid motion using the tools of algebra, trigonometry, and calculus.

PHYS 221   Engineering Physics II* (5 Hours) ⊺▸
Prerequisites : PHYS 220 and MATH 242.
Engineering Physics II (and associated laboratory experience) is the continuation of Engineering Physics I. It is the study of electricity, magnetism, electromagnetic waves, and optics using the tools of algebra, trigonometry, and calculus.

Plumbing (PLUM)

Courses

PLUM 110   Introduction to Plumbing Systems (3 Hours)
This is an introduction course to the plumbing trade with an emphasis on residential plumbing and installation methods. Students will be instructed on the basic fundamentals of the plumbing trade. This course is designed to provide training in the identification and use of plumbing tools and materials, plumbing print reading, math skills used in the plumbing trade, reading residential plumbing drawings and sketches, perform basic pipe sizing, copper and plastic piping practices, soldering and brazing, cutting and threading carbon steel pipe, joining cast-iron pipe and fittings, making flared and compression joints with copper tubing, PVC and CPVC fittings, fitting and cleanout requirement for DWV piping, and installing natural gas piping systems.

PLUM 125   Residential Plumbing (3 Hours)
This course introduces students to residential plumbing fixtures, faucets, drain assemblies and appliances. Students will study and practice safe installation applications of basic residential plumbing devices. The items discussed in this course will focus mainly on wood-framed structures such as single and multi-family dwellings along with the different types of materials and tools that are commonly used with these structures. This course is designed to provide an understanding of the plumbing system of a structure including water supply distribution pipes, fixtures and fixture traps, soil, waste and vent pipes, building drains and building sewers, storm water drainage and their devices, appurtenances and connections within the building and outside the building within the property lines.

PLUM 130   Print Reading and Estimating (3 Hours)
This course explores reading, interpreting, and understanding of construction drawings and developing piping sketches including plan, elevation and isometric views, size drain waste and vent piping. This course was designed for plumbing students who need to develop the ability to interpret trade prints and plan the installation of the required plumbing. The students will be taught the basics of sketching and plumbing designs on construction prints.

PLUM 140   Backflow Preventers (2 Hours)
This course is designed to provide essential information by blending theoretical and practical aspects of cross-connection controls concerning the theory of backflow prevention and the different types of backflow devices that are used to protect the public water supply. This class will provide the students with an understanding of the principles of backflow prevention, back pressure and backsiphonage along with applying the hydraulic principles and laws. Students will be able to recognize the proper backflow prevention assembly application, installation and operation. Students will be able to demonstrate how to properly install and test backflow protection devices.

PLUM 210   DWV and Water Distribution* (3 Hours)
Prerequisites or corequisites: PLUM 125.
This course introduces students to the layout and design of the drain, waste, and vent (DWV) along with how to size water distribution lines in residential homes. The students will gain practical application of using leveling instruments, shooting elevations, and grading pipes. Students will become familiar with the different types of piping utilized in water and distribution piping. This class will examine sewer treatment procedures and disposal systems; including sewers, septic tanks, calculating tank sizes, maintenance causes, and removal of sewer obstructions.

PLUM 240   Installation, Maintenance and Repair* (3 Hours)
Prerequisites or corequisites: PLUM 130.
This course is designed to convey solid plumbing practices applicable to all areas of plumbing trade including: materials, installations, maintenance, and repair. Traditional approaches will be examined to ensure that the students receive a broad exposure to all materials and practices of the work place. Emphasis will be placed on advanced concepts of the plumbing industry. This class focuses on the maintenance and repairing of plumbing fixtures and includes the scientific principles of explaining why water supply and sewage systems work and mathematical principles of plumbing. This course will allow students to learn practical application in the lab setting of the theoretical material covered in class in how to diagnose and repair common problems associated with plumbing components and systems.

PLUM 250   Commercial Plumbing* (3 Hours)
Prerequisites : PLUM 110.
This course introduces students to commercial plumbing features. Students will study and practice safe application and installation of basic commercial plumbing devices. This course is designed to provide an understanding of the plumbing system of a commercial structure including water supply distribution pipes; fixtures and fixture traps; soil, waste and vent pipes; building drains and building sewers; storm water drainage; appurtenances and connections within the building and outside the building within the property lines.

PLUM 275   Plumbing Code* (3 Hours)
Prerequisites or corequisites: PLUM 125.
This course is designed to assist students in the understanding and the interpretation of the current International Plumbing Code (IPC) and International Fuel Gas Code (IFGC) and the minimum requirements for plumbing materials and design. These codes are founded upon the basic principles of safety through properly designed systems, acceptable installation standards, and appropriately maintained plumbing systems.

PLUM 280   Plumbing Internship* (3 Hours)
Prerequisites : Department approval.
Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work environment. The internship will provide the students with an on-the-job experience under the supervision of industry professionals. The work will be developed in cooperation with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals in the plumbing field. Minimum 15 hrs. per week on-the-job training.

Political Science (POLS)

Courses

POLS 122   Political Science (3 Hours) ⏸▶
This course provides students the opportunity to explore the discipline of political science and to discover how political scientists study politics in the contemporary world.

POLS 124   American National Government (3 Hours) ⏸▶
This course introduces students to American government, politics, and policymaking, and the core concepts, values, ideas, relationships, institutions, issues, and people that constitute politics and government.

POLS 126   State and Local Government (3 Hours) ⏸▶
This course examines the executive, legislative, judicial and service functions of state and local government in the United States in general and in Kansas in particular. The course includes guest lectures by elected officials, government personnel and community activists.

POLS 132   Introduction to Comparative Government (3 Hours) ⏸▶
This course compares the different political structures of many of the world's most important countries, including economic development, patterns of government and administration, party structures and policy formation.

POLS 135   International Relations (3 Hours) ⏸▶
This course analyzes the conflict and cooperation among nation-states. Students will study contemporary problems and how they relate to power, war, terrorism, diplomacy, international organizations and the future of the nation-state system.

POLS 175   Environmental Policy and Law (3 Hours)
This is a survey course in environmental regulation and will provide an overview of key environmental laws and policies including major provisions of the National Environmental Policy Act (NEPA), the Clean Water Act (CWA),the Clean Air Act (CAA), the Resource Conservation and Recovery Act(RCRA),the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and The Endangered Species Act (ESA). 3 hrs. lecture/wk.

POLS 192   Political Theory (3 Hours)
This course examines the relationship between citizens and government, and competing justifications for political authority. We will focus on the Western political tradition, in particular Plato, Locke, Mill and Marx. Most of class work consists of participation in historical simulations involving Ancient Athens and Revolutionary America, with some attention to other periods. 3 hrs. lecture/wk.

POLS 200   Model United Nations (3 Hours)
This course is designed for students who are interested in understanding international organizations, global issues, and diplomacy, and participating in competitive intercollegiate Model United Nations simulations. Students learn about the history, structure, and function of the United Nations, the foreign policy concerns of selected member states, and the processes by which member states pursue their policy objectives. Students further develop leadership skills as they represent selected members states in Model United Nations simulations.

POLS 220   Introduction to Public Policy (3 Hours)
This course introduces the policymaking process. It provides an overview of key theories of public policymaking and of the actors involved in the policymaking process; it examines incentives, enhancements, and constraints that shape the policymaking process; and it equips students with the tools to analyze and evaluate of the impact of public policy. Several public policy areas are examined.

POLS 245   Introduction to Public Administration (3 Hours)
This course introduces students to the administration of policy, including the role of administrative agencies and administrators in the American political system, organizational arrangements, administrative functions, the public servants and human capital, policy and decision-making processes, public finance and budgeting, accountability, and community participation.

POLS 270   Political Science Internship* (3 Hours)
Prerequisites : Department approval.
Students augment their academic course work with an internship in an appropriate setting under instructional supervision. Internship projects are cooperative efforts between appropriate supervisors in state, local or national government settings or not-for-profit organizations and college staff and students. Internships give students the opportunity to participate in the real-world application of their academic studies. In addition, this synthesis of classroom study with practical experience provides students with skills and insights useful in selecting a career or avocation in community service. The student spends the equivalent of 10 hours per week performing internship duties over the course of the semester or a total of 150 hours. This is a repeatable course and may be taken more than once for credit.

POLS 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

POLS 292   Special Topics: (1-3 Hour)
This course periodically offers specialized or advanced discipline-specific content related to the study of political science, not usually taught in the curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Practical Nursing (PN)

Courses

PN 125   KSPN Foundations of Nursing* (4 Hours)
Prerequisites : Admission to the Practical Nursing Program.
This course introduces practical nursing and roles of the practical nurse as well as profession and client-related care concepts. Emphasis is placed on the knowledge and skills needed to provide safe, quality care. The theoretical foundation for basic data collection and nursing skills are presented and an introduction to the nursing process provides the student with a framework for decision making.

PN 126   KSPN Foundations of Nursing Clinical* (2 Hours)
Prerequisites : Admission to the Practical Nursing Program.
Corequisites: PN 125.
This course introduces the skills required to practice nursing. The theoretical foundation for basic data collection and nursing skills are presented and the student is given an opportunity to demonstrate these skills in a clinical laboratory setting. Students are also given the opportunity to apply the nursing process to client-related situations.

PN 130   KSPN Nursing Care of Adults I* (4 Hours)
Prerequisites : Admission to the Practical Nursing Program and PN 125 with a grade of "C" or higher and PN 126 with a passing grade.
Corequisites: PN 132.
This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cardiac output and tissue perfusion, oxygenation, regulation and metabolism, and integument. Principles of pre- and post-operative care and IV therapy are also addressed.

PN 132   KSPN Nursing Care of Adult I Clinical* (2 Hours)
Prerequisites : Admission to the Practical Nursing Program and PN 125 with a "C" or higher and PN 126 with a passing grade.
Corequisites: PN 130.
This course focuses on the care of adult clients with common medical/surgical health alterations. The clinical laboratory experience gives students the opportunity to apply theoretical concepts from Nursing Care of Adults I and implement safe client care in selected settings.

PN 136   KSPN Fundamentals of Pharmacology and Safe Medication Administration* (2 Hours)
Prerequisites : Admission to the Practical Nursing Program.
This course introduces the principles of pharmacology. Emphasis is placed on nursing care related to the safe calculation and administration of medications to clients across the life span.

PN 140   KSPN Maternal Child Nursing* (2 Hours)
Prerequisites : Admission to the Practical Nursing Program.
Corequisites: PN 141.
This course provides an integrative, family-centered approach to the care of childbearing women, newborns, and children. Emphasis is placed on care of the pregnant woman and newborn, normal growth and development, and common pediatric disorders.

PN 141   KSPN Maternal Child Nursing Clinical* (1 Hour)
Prerequisites : Admission to the Practical Nursing Program.
Corequisites: PN 140.
This course provides an integrative, family-centered approach to the care of childbearing women, newborns, and children. Students observe the uncomplicated birth process and practice postpartum care as well as care of the newborn in the clinical laboratory setting. Common pediatric diseases and the growth and development process is the focus of child-related clinical laboratory experiences.

PN 145   KSPN Mental Health Nursing* (2 Hours)
Prerequisites : Admission to the Practical Nursing Program.
This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the client with a mental health disorder.

PN 150   KSPN Nursing Care of Adults II* (4 Hours)
Prerequisites : Admission to the Practical Nursing Program.
Corequisites: PN 152.
This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cognition and sensation, mobility, elimination, immunity and hematology, and reproduction. Principles related to emergency preparedness are also addressed.

PN 152   KSPN Nursing Care of Adults II Clinical* (2 Hours)
Prerequisites : Admission to the Practical Nursing Program.
Corequisites: PN 150.
This course focuses on the care of adult clients with common medical/surgical health problems. The clinical laboratory experience gives students the opportunity to apply theoretical concepts from Nursing Care of Adults I and II and implement safe client care in selected settings. Students are also given the opportunity to practice leadership skills while managing a caseload of clients.

PN 155   KSPN Care of Aging Adults* (2 Hours)
Prerequisites : Admission to the Practical Nursing Program.
This course is designed to explore issues related to aging adults. Course content addresses the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients across a continuum of care.

PN 175   KSPN Leadership, Roles and Issues* (1 Hour)
Prerequisites : Admission to the Practical Nursing Program.
This course provides orientation to leadership roles of the LPN and related responsibilities. It also introduces issues to students that they will encounter in the workplace.

Psychology (PSYC)

Courses

PSYC 121   Applied Psychology (3 Hours)
The course will focus on learning how to apply psychological principles in order to better understand one's own experience (cognitive, behavioral and emotional) and that of other people. This course is not a substitute for Introduction to Psychology and will not meet the prerequisite requirement for advanced psychology courses.

PSYC 130   Introduction to Psychology (3 Hours) �
This basic introduction to psychology includes the study of biological aspects of behavior, the brain, consciousness, sensation and perception, motivation and emotion, stress, maturation and development, learning and memory, normal and abnormal personality, and social psychology. This course is the prerequisite for all advanced-level psychology courses.

PSYC 205   Human Sexuality* (3 Hours)
Prerequisites : PSYC 130.
PSYC 205, Human Sexuality, is a balanced and thoughtful account of what is known about sexuality from various perspectives. A broad and representative survey of research is presented in a number of topical areas. Psychobiology, sexual development during childhood and adolescence, sexual interactions, love relationships and behavior, gender issues, sexual orientation, health issues and diseases, and sexual problems and solutions will be studied. Primary emphasis will be placed on the individual and the couple as a unit of analysis. Class discussions of issues relating to human sexuality will be encouraged.

PSYC 209   Statistics in Psychological Research* (3 Hours)
Prerequisites : PSYC 130 .
This course introduces the use of statistics as applied to various research designs. The course, PSYC 210: Research Methods in Psychology and this course are designed for those planning to major in psychology. A wide range of statistical methods are used to analyze data collected in psychological research. Examples of different kinds of statistical methods will be used in this course to analyze data, informing the student of how to apply the proper statistical methods to data examples. Descriptive and inferential statistical methods with both parametric and nonparametric statistical tools are studied. The course emphasis is on which statistical tests are appropriate for transforming gathered observations into meaningful and useful information relevant to everyday life and the studies in various fields of psychology.

PSYC 210   Research Methods in Psychology* (3 Hours)
Prerequisites : PSYC 130 .
This course deals with scientific research methods utilized in the social sciences, especially psychology, sociology, political science and anthropology. The course examines a wide range of data collection methodologies including observation, questionnaire construction, and controlled experimentation. The course will be beneficial for analyzing and evaluating the quality of research findings reported in both the popular and academic press. It will also be useful to those who plan to engage in occupations requiring the use of research methodology.

PSYC 215   Child Development* (3 Hours) �📖
Prerequisites : PSYC 130.
This course is a comprehensive account of human development from conception through adolescence. The course integrates genetic, biological, physical and anthropological influences with psychological processes and explores determinants of behavior from a genetic and environmental perspective.

PSYC 218   Human Development* (3 Hours) �📖
Prerequisites : PSYC 130.
This course is a comprehensive account of human psychological and physical development from conception through infancy, childhood, adolescence, adulthood and death. The course integrates genetic, biological, physiological and anthropological influences with the psychological process, and explores determinants of development from both hereditary and environmental perspectives.

PSYC 220   Social Psychology* (3 Hours)
Prerequisites : PSYC 130.
Social psychology is the study of social influence on behavior and cognition. Social psychology explores our relationships with others, our interdependency, and the mutual influence we have on one another. The course will cover concepts such as attitude formation, attitude change, prejudice, aggression, affiliation, obedience to authority, and conformity; special emphasis will be placed on fostering prosocial behavior and how our attitudes toward self and others are influenced by race, ethnicity, gender, age, religious beliefs, socioeconomic status, sexual orientation, and political beliefs. The course requires students to acquire a critical awareness of research methodology.

PSYC 225   Educational Psychology* (3 Hours)
Prerequisites : PSYC 130.
This course addresses issues that apply theories of psychology to the educational environment. Topics included in the study of educational psychology include research methodology, theories of human development, principles of learning, the psychology of motivation, theories of intelligence, testing and assessment techniques, and career development.

PSYC 250   Health Psychology* (3 Hours)
Prerequisites : PSYC 130.
This course covers content, methods and theory regarding the interplay between psychological and biological determinants of health and illness and examines how these factors relate to health status. The course focus is on the application of psychological methods, principles of maintenance of health, prevention of disease, treatment of illness, and rehabilitation and recovery from impaired health. It follows an interdisciplinary approach to content and instruction.

PSYC 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

PSYC 292   Special Topics:* (3 Hours)
Prerequisites : ENGL 121 or (RDG 096 or RDG 126) or College Reading Readiness.
This course periodically offers specialized or advanced discipline-specific content related to the study of Psychology, not usually taught in the curriculum. This course may expand upon a topic introduced in a current course, synthesize topics that cut across existing courses or explore a topic not currently addressed in the Psychology curriculum. Students may repeat Special Topics in Psychology for credit but only on different topics. This is a repeatable course and may be taken more than once for credit.

Public Health (PH)

Courses

PH 142   Health Communication in a Diverse World (3 Hours)
This course provides the students with opportunities to explore the principles and application of communication at the individual, group and community level. Communication and advocacy will be studied in a variety of settings such as healthcare, schools, workplace and special populations including children, elderly, homeless, limited English-proficient patients and individuals with special needs. 3 hrs. lecture/wk.

PH 152   Health Education (3 Hours)
Students in this course will explore the importance of health, health education and health promotion at the individual, group ad community level. The course emphasizes a skill-oriented focus and preparation for a health educator, including opportunities to identify and address a community need while applying basic skills of advocacy and leadership through the delivery of a course. 3 hrs. lecture/wk.

PH 162   Health Administration (3 Hours)
This course will provide an overview of the healthcare delivery system, including various levels of care providers and facilities. Students will explore administration of long-term care and public health services, including financial management, government policies and management of care. 3 hrs. lecture/wk.

Railroad Conductor (RRTC)

Courses

RRTC 123   Introduction to Conductor Service* (4 Hours)
Prerequisites : Admission to the JCCC railroad operations program.
This is an introductory course for the conductor service option within the railroad operations program. Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and the basic responsibilities of conductors.

RRTC 175   Conductor Mechanical Operation* (2 Hours)
Prerequisites : Admission to the JCCC railroad operations program.
This course covers mechanical operations that relate to conductor service. Upon successful completion of this course, the student should be able to describe the importance and application of freight care mechanical policies and practices to ensure safe railroad operations.

RRTC 261   Conductor Service* (2 Hours)
Prerequisites : Admission to the JCCC railroad operations program.
Upon successful completion of this course, the student should be able to describe and apply railroad organization and general operations, policies and practices to ensure railroad safety and basic responsibilities of conductors. This course includes safety and the general rules with which conductors must comply and teaches the techniques and administrative procedures conductors use on the job to perform safely and effectively.

RRTC 263   General Code of Operating Rules* (4 Hours)
Prerequisites : Admission to the JCCC railroad operations program.
Conductors must maintain a thorough understanding of the General Code of Operating Rules (GCOR). This course provides an in-depth study of the GCOR. Upon completion of this course, the student should be able to demonstrate abilities to apply the General Code of Operating Rules to safe and efficient train movement and operations.

RRTC 267   Conductor Field Application* (4 Hours)
Prerequisites : Admission to the JCCC railroad operations program.
Upon successful completion of this course, the student will have observed actual operations and be able to apply skills learned in classroom-based instruction to those operations. The student will observe and perform operations under the supervision of experienced conductor mentors in an actual field location.

Railroad Industrial Technology (RRIT)

Courses

RRIT 132   Thermite Welding* (3 Hours)
Prerequisites : Department approval.
Upon successful completion of this course, the student should be able to produce in a safe manner high-quality, sound thermite welds on standard rail and mismatched rail. This course is intended for people who are employed in the railroad industry. It will include specific in-depth industrial training. Students will be required to make various rail alignments and to grind various new and worn rails.

RRIT 136   Rail and Switch Point Repair Welding* (3 Hours)
Prerequisites : BNSF Railway Training Director approval and JCCC department approval.
Upon successful completion of this course, the student should be able to identify and/or produce in a safe manner high-quality welding repairs and correct welding techniques to railroad track components to include maintenance, grinding, welding and repairs of switches, track rail ends, track wheel burns, battered welds, rail transition ramp building methods, Pandrol weld on shoulders, proper placement of work piece connections, and approved switch point welding procedures, as specified by the Burlington Northern Santa Fe Railway. This course will involve the study of different welding processes, welding safety, proper grounding techniques, rail heater and metallurgy. The effects of heat in relationship to specific rail steel components will be discussed. Students will be required to experience all appropriate methods and processes including welding, cutting, grinding, straight edging rail steel and preparing switch points for proper mating surface according to current industry standards. Evaluation will be in a classroom and laboratory setting.

RRIT 142   Structural Pile Welding* (3 Hours)
Prerequisites : BNSF Railway Training Director approval and JCCC department approval.
Upon successful completion of this course, the student should be able to splice pipe and H-beam piling and install cap plate gussets according to Burlington Northern Santa Fe (BNSF) standard blueprints. This course shall make use of oxy-fuel cutting (OFC), grinding, shielded metal arc welding (SMAW), and flux cored arc welding (FCAW) to prepare, fit and weld piling. Selected welds will have test strips bent to check for soundness of welds. These strips should meet basic American Welding Society (AWS) test standards. Basic metallurgy will be discussed as it applies to the need for preheat and post heat in the building of railroad bridges.

RRIT 145   Frog Welding* (3 Hours)
Prerequisites : BNSF Railway Training Director approval and JCCC department approval.
Upon successful completion of this course, the student should be able to repair by welding a manganese frog casting according to Burlington Northern Santa Fe Railway standards. This course will involve the study of different welding and cutting processes, with emphasis on the FCAW process. Metallurgy and the effects of heat in relationship to austenitic manganese steel will be discussed. Students will be required to cut, grind, straight edge, dye penetrant test, weld and monitor heat input during the repair process on austenitic steel frog casting for evaluation in an actual laboratory setting.

RRIT 160   Basic Welding* (3 Hours)
Prerequisites : BNSF Railway Training Director approval and JCCC department approval.
Upon successful completion of this course, the student should be able to properly use oxyfuel cutting (OFC), plasma arc cutting (PAC), plasma arc gouging, air carbon arc cutting (CAC-A), shielded metal arc welding (SMAW), and flux core arc welding (FCAW) equipment. The SMAW and FCAW portion of the course will concentrate on flat groove welds (1G) and horizontal fillet welds (2F). The student is required to pass welding tests in accordance with the Railroad Welding Specification for Cars and Locomotives (AWS D15.1).

RRIT 162   Structural Stick Welding* (3 Hours)
Prerequisites : BNSF Railway Training Director approval and JCCC department approval.
Upon successful completion of this course, the student should be able to properly use the shielded metal arc welding (SMAW) process on multi-pass groove welds in the horizontal (2G), vertical up (3G), and overhead (4G) positions. The student is required to pass welding tests in accordance with the Railroad Welding Specification for Cars and Locomotives (AWS D15.1).

RRIT 164   Structural Wire Welding* (3 Hours)
Prerequisites : BNSF Railway Training Director approval and JCCC department approval.
Upon successful completion of this course, the student should be able to properly use the flux core arc welding (FCAW) process on multi-pass groove welds in the horizontal (2G), vertical up (3G), and overhead (4G) positions. The student is required to pass welding tests in accordance with the Railroad Welding Specification for Cars and Locomotives (AWS D15.1).

RRIT 166   Mechanical Welding Air Brake Pipe* (3 Hours)
Prerequisites : Department approval.
Upon successful completion of this course, the student should be able to properly use the shielded metal arc welding (SMAW) and flux cored arc welding (FCAW) processes on pipe welds. The student is required to pass welding tests in accordance with the Railroad Welding Specification for Cars and Locomotives (AWS D15.1).

RRIT 168   Sheet Metal Welding* (3 Hours)
Prerequisites : BNSF Railway Training Director approval and JCCC department approval.
Upon successful completion of this course, the student should be able to properly use the gas metal arc welding (GMAW) and gas tungsten arc welding (GTAW) processes on sheet metal. The student is required to pass welding tests in accordance with the Railroad Welding Specification for Cars and Locomotives (AWS D15.1).

Railroad Operations (RRT)

Courses

RRT 100   Introduction to the Railroad Industry (2 Hours)
This course will provide Railroad Operation majors instruction in the railroad industry from pre-employment to retirement. Current and relevant legal, ethical issues, workplace safety, team management and problem-solving skills important to the railroad industry are covered. Professional branding through social media, resume and cover letter will be produced. Self-promotion, networking, job searches and interview skills will also be covered.

RRT 120   History of Railroading (3 Hours)
This course covers the history and traditions of railroading and the industry's role in North American economic development. Upon successful completion of this course, students will be able to list and explain the significance of major events in North American railroading.

RRT 121   Railroad Technical Careers (3 Hours)
This course includes information about technical careers in railroading, enabling students to choose suitable career paths. This course includes field trips that will demonstrate the relationships among technical work groups in day-to-day railroad operations. Upon successful completion of this course, students should be able to describe basic technical job functions, requirements and characteristics.

RRT 150   Railroad Operations (3 Hours)
This course includes information about the industry, its major assets, structure and typical operations. Upon successful completion of this course, students will be able to define the current North American railroading industry characteristics, basic operations components and processes, and industry structure and administrative processes.

RRT 165   Railroad Safety, Quality and Environment (3 Hours)
This course covers the importance of safety, quality, personal health and environmental awareness to the railroad industry and emphasizes the basic tools and techniques for improving these conditions on the job. Upon successful completion of this course, students should be able to define and explain the need for improved safety, quality, health and environmental awareness; describe their basic principles; explain the elements of successful programs; and apply these elements to typical tasks on the job.

RRT 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

Reading (RDG)

Courses

RDG 096   Academic Reading* (3 Hours)
Prerequisites : (EAP 096 or EAP 111) and (EAP 086 or EAP 115) and (EAP 076 or EAP 122) or completion of JCCC placement requirements or department approval.
This is the mandatory reading course based on JCCC assessment scores, and successful completion of this course is required to exit the assessment mandate. It is designed for students who need to improve their understanding of written expression. The focus of this course is higher-level comprehension and vocabulary skills. Students use written materials to apply and practice skills learned in the class and to provide a background for written assignments. This course does not fulfill degree requirements.

RDG 110   Targeted Reading Improvement (1-3 Hour)
Targeted Reading Improvement is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting but will be appropriately directed and supervised by regular instructional staff. Total hours vary based on the learning experience. This is a repeatable course and may be taken more than once for credit.

RDG 120   Reading Effectively Across Disciplines (1 Hour)
Upon completion of this course, students will be able to apply specific text strategies that relate to paired-course materials. Students will engage in small group work to further understanding, and independently practice with paired-course texts with immediate professor feedback. The focus of this course is to enhance student success and retention. Students will reflect on their application of the skills in an effort to transfer the skills to future coursework. This is a reading course designed as a paired-course for students who are enrolled in any text-heavy course.

RDG 127   College Reading Strategies* (3 Hours)
Prerequisites : (RDG 096 or RDG 126) or completion of JCCC placement requirements.
This advanced course is designed for students who wish to improve their higher-order thinking skills through critical reading. Students will improve academic reading by developing critical reading skills, expanding background knowledge, increasing vocabulary, and applying flexible reading strategies. Students use college-level texts to provide a background for assignments and discussions applicable to all college disciplines.

RDG 292   Special Topics: (1-3 Hour)
This course periodically offers specialized discipline-specific content related to the study of academic reading, not normally taught in the curriculum to interested and qualified students. This is a repeatable course and may be taken more than once for credit.

Religion (REL)

Courses

REL 120   Exploring World Religions (3 Hours) ⏵
This course is a comparative study of the world's major religious traditions. The basic beliefs of Hinduism, Buddhism, Confucianism, Daoism, Judaism, Christianity and Islam will be explored. A comparative framework for religious studies will be provided, and essential differences between Eastern and Western religions will be noted. Literary texts and iconographic images will be studied as appropriate.

REL 125   Asian Religions (3 Hours)
Asian Religions is a detailed examination of the rich and diverse religious traditions of India, Tibet, China and Japan. Students will explore the histories, mutual influences, beliefs, and practices of Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Daoism, the Tibetan religions, and Shinto, emphasizing the characteristics they share, as well as those that differentiate them from each other and from Western religions. Primary and secondary texts, as well as the iconographic and artistic traditions of these religions, will be examined as appropriate.

REL 126   Religions of the West (3 Hours)
Religions of the West is a detailed examination of the rich and diverse religious traditions that originated in the ancient Near East (Judaism, Christianity, Islam), examples of indigenous traditions of Africa and North America, and examples of "alternative religions" of modern/contemporary Western culture. The student will explore the histories, cultural influences, beliefs and practices of these religions, stressing the characteristics that they share and those that differentiate them, both from one another and from the religious traditions of South and East Asian cultures. The primary texts, as well as the iconographic and artistic traditions of these religions, will be examined as appropriate.

REL 150   Islam: Religion and Civilization (3 Hours)
This course covers the context in which Islam arose; the career of the Prophet Muhammad; the main teachings and practices of the religion; the Qur'an and other early Islamic literature; subsequent political developments in the religion and its spread; its main religious branches; its history during the Middle Ages; the Christian crusades and their consequences; the major components of Islamic civilization, including law, the arts, literature, philosophy, science, and mathematics; Sufi; the effects of Western imperialism upon Islamic states; major developments in Islamic thought and practice since the seventeenth century; the Islamic diaspora and Islam today. HIST 150, HUM 150 and REL 150 are the same course; enroll in one only.

REL 292   Special Topics:* (3 Hours)
Prerequisites or corequisites: REL120 with a "C" or higher or REL 125 with a "C" or higher or REL 126 with a "C" or higher.
This course periodically offers specialized or advanced discipline-specific content related to the study of religion, not usually taught in the curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Respiratory Care (RC)

Courses

RC 120   Respiratory Structure and Function* (2 Hours)
Prerequisites : Admission to the Respiratory Care Program and BIOL 144 with a "C" or higher and CHEM 122 with a "C" or higher and ENGL 121 with a "C" or higher.
Corequisites: RC 124 and RC 131.
Prerequisites or corequisites: BIOL 230 with a "C" or higher.
This is a comprehensive study of the physiology and pathophysiology of the pulmonary, cardiovascular and renal systems as they relate to respiratory care.

RC 124   Fundamentals of Respiratory Care* (6 Hours)
Prerequisites : Admission to the Respiratory Care Program and BIOL 144 with a grade of "C" or higher and CHEM 122 with a grade of "C" or higher and ENGL 121 with a grade of "C" or higher.
Corequisites: RC 120 and RC 131.
Prerequisites or corequisites: BIOL 230 with a grade of "C" or higher.
This course covers therapeutic modalities and equipment used in respiratory care. Medical gas production and storage is also addressed. Emphasis is on patient assessment, clinical application of therapies, therapy evaluation and communication techniques. The course also examines the roles of respiratory care in the healthcare system and basic respiratory care services scope. The role the respiratory care practitioner assumes in an organization and the operation of a respiratory care department are also introduced.

RC 131   Cardiopulmonary Diagnostics* (3 Hours)
Prerequisites : Admission to the Respiratory Care Program and BIOL 144 with a "C" or higher and CHEM 122 with a "C" or higher and ENGL 121 with a "C" or higher.
Corequisites: RC 120 and RC 124.
Prerequisites or corequisites: BIOL 230 with a "C" or higher.
This course is a detailed review of the procedures, equipment, interpretation and analysis used in the diagnosis of cardiopulmonary disease. Diagnostic procedures will include: non-invasive oxygen and carbon dioxide measurements, arterial blood gas analysis, pulmonary function testing, thoracic imaging studies, clinical laboratory data, the electrocardiogram, bronchoscopy, thoracentesis, cardiopulmonary exercise studies and sleep studies.

RC 136   Cardiopulmonary Diseases* (3 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.
Corequisites: RC 140 and RC 145 and RC 146.
This course provides a detailed review of pulmonary disorders with disease pathology and management. The information provided allows students to integrate assessment and treatment of cardiopulmonary disease states as well as the physiological response to cardiopulmonary diseases. The role of a respiratory care practitioner in disease management is defined.

RC 140   Respiratory Care Pharmacology* (2 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.
Corequisites: RC 136 and RC 145 and RC 146.
This course acquaints the student with general principles of pharmacology. It provides a comprehensive review of all drugs and drug groups that are administered by respiratory care practitioners or play an integral part in the management of patients they encounter. Emphasis is on the respiratory care clinical application of pharmacological agents, their therapeutic effects, mechanism of action and adverse effects rather than the biochemistry involved.

RC 145   Cardiopulmonary Critical Care I* (5 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.
Corequisites: RC 136 and RC 140 and RC 146.
The student will develop knowledge and skills in the area of hospital critical care. Topics will include respiratory failure, airway management, arterial blood gas procurement, hemodynamic monitoring, mechanical ventilation, and chest trauma. Subtopics in mechanical ventilation consist of basic terms and concepts, mechanical ventilation function, breath delivery, indications for mechanical ventilation, mode selection, and initial settings.

RC 146   Pediatric/Neonatal Respiratory Care* (2 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.
Corequisites: RC 136 and RC 140 and RC 145.
The focus will be on the respiratory care of neonatal and pediatric patients, with emphasis on the management of cardiopulmonary disease states unique to children. Information will be based on developmental anatomy and physiology, pathology, diagnostic and laboratory assessments, and associated patient management in the acute, critical, emergency care, transport, and home care settings.

RC 255   Cardiopulmonary Critical Care II* (5 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 136 with a grade of "C" or higher and RC 140 with a grade of "C" or higher and RC 145 with a grade of "C" or higher and RC 146 with a grade of "C" or higher.
Corequisites: RC 271.
The student will refine knowledge and skills in the critical care setting. Emphasis will be on management of the ventilator-patient system. Topics will include: physical examination of the mechanically ventilated patient, ventilator graphics, troubleshooting the ventilator-patient system, ventilator adjustments to achieve optimal oxygenation and ventilation, disease specific ventilator management, non-conventional modes of mechanical ventilation, and pediatric mechanical ventilation.

RC 265   Respiratory Care Program Capstone* (3 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 255 with a grade of "C" or higher and RC 271 with a grade of "C" or higher.
Corequisites: RC 272.
This course is designed as a cumulative experience to prepare students for employment and the National Board of Respiratory Care (NBRC) examinations for the Registered Respiratory Therapist credential. In preparing for credential examination students will demonstrate knowledge and skill competency attainment expected of a skilled Respiratory Therapist. Exploration of subspecialty career options include home care, pulmonary rehabilitation and management. Students will be required to pass a comprehensive exam based on the current NBRC matrix for current board testing. Completed projects will document experiences and the knowledge base needed to assume the role of a Registered Respiratory Therapist (RRT).

RC 271   Respiratory Care Clinical Experience I* (6 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 136 with a grade of "C" or higher and RC 140 with a grade of "C" or higher and RC 145 with a grade of "C" or higher and RC 146 with a grade of "C" or higher.
Corequisites: RC 255.
This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students will have the opportunity to work with patients under close supervision to further develop their skill and understanding of basic respiratory care procedures for adults and children. The course objectives advance throughout the semester to involve the students in all aspects of basic respiratory care for the acute care patient. As their comfort level and exposures progress, students are allowed to work with more critically ill patients.

RC 272   Respiratory Care Clinical Experience II* (6 Hours)
Prerequisites : Admission to the Respiratory Care Program and RC 255 with a grade of "C" or higher and RC 271 with a grade of "C" or higher.
Corequisites: RC 265.
This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students will have the opportunity to work under close supervision to further develop their skill and understanding of critical care respiratory procedures for adults, pediatric and neonatal patients. Students will also be involved in specialty activities to include physician rounds, pulmonary rehabilitation and pulmonary function testing.

Science (SCI)

Courses

SCI 292   Special Topics:* (1-5 Hour)
Prerequisites : Department approval.
This course periodically offers specialized or advanced discipline-specific content related to diverse areas of science, not offered in the normal curriculum, to interested and qualified students within the program. Topics will not be repeated within a 24 month period. This is a repeatable course and may be taken more than once for credit.

Sociology (SOC)

Courses

SOC 122   Introduction to Sociology (3 Hours) ⊤▷
Introduction to Sociology introduces students to sociology, the "science of society," and its approach to human social life. The course shows students how sociologists conduct research and describes the basic concepts and theories sociologists use to explain the social world.

SOC 125   Social Problems (3 Hours) ⊤▷
Selected social problems will be analyzed. Problems associated with race, gender, class, deviance, crime and ecology will be examined as perennial issues in contemporary society. In addition, other topics will be analyzed as they arise or as the instructor and students determine them to be significant. The history and development of each problem, as well as possible solutions, will be examined from a variety of perspectives.

SOC 131   Sociology of Families (3 Hours) ⊤▷
This is a sociological examination of marriage and the family as a social institution. It will emphasize social theory, changing roles, family formation, socialization, domestic conflict, interaction among family members and marriage partners, and the role of marriage and the family in society.

SOC 146   Introduction to Social Work and Social Welfare (3 Hours) ⊤▷
This course will introduce the student to the profession of social work and to the history and development of social welfare and social service systems in the United States. This is a required introductory course in the sequence of study leading to a professional degree (BSW, MSW or DSW) in social work.

SOC 147   Social Work and Social Justice (3 Hours)
The history of social movements in the United States will be integrated into exploration of current economic, political, religious and psychosocial issues, at micro and macro practice levels, relevant to the professional practice of social work at the BSW or MSW level of practice. This course is designed to support the National Association of Social Workers (NASW) Code of Ethics and Council of Social Work Education (CSWE) requirements for culturally competent practice.

SOC 165   Contemporary Chinese Society (3 Hours)
A survey of major issues and changes in Chinese society since 1949, this course focuses on social change while analyzing both continuity and change in social forces and historical processes. Social movements, political and economic change, social conflict and globalization are examined and analyzed through competing narratives.

SOC 180   Inequality and Diversity in The United States (3 Hours)
In modern American society, the issue of diversity is increasingly and vigorously debated. Topics like race, gender, class, sexuality are ever-present in the media and in public discourse. But what does the word "diversity" actually mean, and why does it matter? In this course, students will explore issues of inequality and diversity with attention to how power structures shape and reproduce existing systems of stratification. The course will critically examine the historical and social developments in cultural diversity and the challenges of multiculturalism. By understanding the tensions created by the social dynamics of inequality and diversity, students can begin to identify the resulting implications for capitalism and democracy.

SOC 220   Food and Society (3 Hours)
Through this exploration of food in society, students will discover the fundamental significance of the relationships between people and food. In studying the ways food is produced and consumed, we will also discover the ways food shapes and expresses relationships among people. This most basic of human needs is easily taken for granted by those who have plenty, while the causes of hunger are easily dismissed or misunderstood. This course will address such misunderstandings, as well as issues of culture, meaning, identity, power, and ecology, all through a focus on food. ANTH 220 and SOC 220 are the same course; enroll in only one.

SOC 240   Sociology of Community (3 Hours)
In a world of instantaneous and mobile communication, many social observers and scholars suggest that community is being lost, and increasing numbers of Americans report feeling increasingly alienated from the people with whom bonds were traditionally the strongest. Taking this apparent paradox as its starting point, this course will examine the impact of macro-social forces such as economic transition, globalization, and technological advance on American communities, focusing especially on the post-Great Depression era. Students will explore the various bases on which communities are formed, as well as assessing threats to community solidarity. In its final analysis, this course will ask: Is community truly being lost, or is it simply changing form?

SOC 270   Men and Masculinities (3 Hours)
This course explores the construct of masculinity within the cultural context of the US. It will examine the experiences of men through the life course and across a variety of institutional structures. Particular focus is given to the intersection of masculinity with race, ethnicity, social class, transgenderism and sexuality. Students will critically analyze contemporary notions of masculinity in "crisis" and men's involvement in both men's movements and gender equality movements.

SOC 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

SOC 292   Special Topics:* (3 Hours)
Prerequisites : Department approval.
This course periodically offers specialized or advanced discipline-specific content related to the study of Sociology, not normally taught in the curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Sustainable Agriculture (SAG)

Courses

SAG 142   Small Farm Business Planning and Management (3 Hours)
This course provides a comprehensive overview of small farm business planning and management and will equip students with the skills and tools needed to operate a farm enterprise. Instruction will cover enterprise selection, goal setting, resource assessment, farm analysis, budgeting and bookkeeping (including tax forms), production costs, risk management, and other management principles. Students will gain knowledge of popular software tools used to track enterprise budgets and manage records. Students will conduct a whole farm analysis of a real-world farm business and develop production recommendations based on their findings.

SAG 165   Farm Producer Food Safety (3 Hours)
Upon successful completion of this course, students should be able to explain the basic legal compliance issues and regulatory agencies regarding food safety and the post-harvest handling of local food products from the farm to market. This course focuses on identifying producer food safety strategies, obstacles, and solutions as well as understanding requirements of FDA's Food Safety Modernization Act (FSMA) and USDA GAP criteria. The course includes training modules and certification from the Producer Safety Alliance (PSA). It will provide students with practical methods of application involved with food safety risk assessment and planning on the campus farm as well as other area farms.

SAG 167   Local Food Production (3 Hours)
Upon successful completion of this course, the student should be able to analyze and explain the basic cooking methods, recipe conversion and professional food preparation and handling of local food products. Additionally, the student should be able to safely operate common food service equipment used in commercial kitchens. It will provide students with practical methods of application involved with safe handling and production of post-harvest local food products. SAG 167 is the same course as HMGT 167; enroll in only one.

SAG 170   Value-Added Production (3 Hours)
The value of farm products can be increased by canning, cleaning, cooling, cooking, combining, churning, culturing, grinding, extracting, drying, handcrafting, packaging, and distributing. Through sourcing raw agricultural products directly from the farm, students will learn how to transform quality ingredients into higher-value products through the application of time-tested techniques thus capturing more value from their own products. In addition to learning about what certifications are needed and what safety regulations should be followed if wanting to market each category of value-added products, students will complete Better Process Control training which provides certification for producing and marketing low acid and acidified foods. Students will also learn the processes and regulations that should be followed if wanting to market home kitchen-produced value-added products such as jams, jellies, preserves, baked goods, cheese, jerky, soaps, and herbal products. SAG 170 is the same course as HMGT 170; enroll in only one.

SAG 205   Agroecology in the Americas (3 Hours)
Through exploring Agroecology in the Americas, students will gain understanding of diverse agroecological farming techniques and community efforts that can be used to strengthen local food systems. While domesticating numerous crops throughout the Americas thousands of years ago, smallholder farmers developed innovative farming practices that laid the foundations of several societies. Many of these practices continue throughout the Americas, anchoring local agricultural systems in local ecosystems, and, hence, increasing resiliency and sustainability. This course will provide insight into how smallholder agroecological techniques and network formation approaches can strengthen collective efforts increasing the resiliency and sustainability of local food systems.

SAG 225   On-Farm Plant Breeding (3 Hours)
Through this exploration of on-farm plant breeding, students will gain the understanding necessary to begin breeding their own crop varieties on-farm. Farmers have maintained symbiotic relationships with plants to supply food to our communities and societies since we domesticated the first crops thousands of years ago. Farmers guiding crops through the process of evolution (i.e., plant breeding) is an essential component of resilient and sustainable agricultural systems. Looking through the historical, biological, social, and practical dimensions of plant breeding, this course will enable you to create crop varieties that are tailored to your community, your farm, and you.

SAG 245   Principles of Sustainable Market Farming (3 Hours)
This course is designed to familiarize Market Farmers with sustainable methods of production of crops grown in the Market Farming industry. The course will prepare students in the basic principles of soils; pest and weed management; varieties of plants to grow; establishment, growth, harvesting and post-harvesting of crops; marketing methods; and business management. Students will become familiar with principles of sustainability and the importance of good record keeping. 3 hrs. lecture/wk.

SAG 250   Sustainable Food Systems* (3 Hours)
Prerequisites : SAG 245.
Students in this course will develop a critical perspective on existing and desirable food systems, from field to fork. The concept of a food system will be explored, and students will apply that concept to develop an overview of the existing social system from production, through distribution, to consumption of food. Issues including food system policy, systemic impacts on environment, health, and social equity will be discussed and evaluated. Through experiential learning, students will apply research and observation of food systems in their community as well as others pursuing goals of sustainability to inform their own career and social aspirations.

SAG 255   Organic and Integrated Pest Management (3 Hours)
This course introduces the principles and practices used by organic growers, as well as the system of Integrated Pest Management (IPM) used by both certified organic and sustainable farmers. Students will be able to identify important pests and develop skills to identify pests they do not already recognize. Reasons for using organic and sustainable management practices will be understood, and the methods of monitoring, determining action thresholds, and determining appropriate controls will be developed.

SAG 260   Sustainable Soil Management (3 Hours)
Establishment and maintenance of soil health is the starting point and goal of sustainable agriculture. This course introduces students to the management of healthy soil for the purpose of producing healthy food. Students will discover the physical, chemical, and biological properties of soil with an emphasis on soil ecosystems. Theory and practice in managing soil as a living system to be nurtured rather than a resource to be mined will be developed through lectures, discussion, and activities utilizing Open Petal Farm as a natural lab.

SAG 272   Sustainable Agriculture Fall Practicum (2 Hours)
Through practical experience complemented by lectures and discussions, students will gain exposure to a broad range of tasks facing the market farmer during the fall and early winter seasons. This includes production and marketing of summer crops, planning, and production of fall crops in high tunnels and open field, and marketing these fall crops. Topics include production planning, planting, integrated crop management, harvest and postharvest practices, marketing through various channels, tools and equipment, soil fertility management, and record keeping. Practicum activities will integrate with other courses in this market farming certificate program. Students will learn both conventional and organic production techniques. Entrepreneurship will be emphasized throughout. 7 hrs. practicum/wk.

SAG 274   Sustainable Agriculture Spring Practicum (2 Hours)
Through practical experience complemented by lectures and discussions, students will gain exposure to a broad range of tasks facing the market farmer during the winter and early spring seasons. This includes production and marketing of winter crops and planning and production of spring and summer crops in high tunnels and open field and marketing these spring crops. Topics include production planning, planting, integrated crop management, harvest and postharvest practices, marketing through various channels, tools and equipment, soil fertility management and record keeping. Practicum activities will integrate with other courses in this market farming certificate program. Students will learn both conventional and organic production techniques. Entrepreneurship will be emphasized throughout. 7 hrs practicum/wk.

SAG 276   Sustainable Agriculture Summer Practicum (2 Hours)
Through practical experience complemented by lectures and discussions, students will gain exposure to a broad range of tasks facing the market farmer during the summer season. This includes planning, production and marketing of spring and summer crops and planning and production of fall crops in high tunnels and open field. Topics include production planning, planting, integrated crop management, harvest and postharvest practices, marketing through various channels, tools and equipment, soil fertility management, and record keeping. Practicum activities will integrate with other courses in this market farming certificate program. Students will learn both conventional and organic production techniques. Entrepreneurship will be emphasized throughout. 7 hrs. practicum/wk.

SAG 285   Sustainable Agriculture and Food Systems Internship* (2 Hours)
Prerequisites : SAG 245 with a grade of "C" or higher and (SAG 272 or SAG 274 or SAG 276 with a grade of "C" or higher) and department approval. Students deepen their practical skills and knowledge in a chosen area with an internship in an appropriate setting under instructional supervision. Internship projects are cooperative efforts between mentors in field settings and college staff and students. Internships give students the opportunity to participate in the real-world application of their academic studies. In addition, this synthesis of classroom study with practical experience provides students with skills and insights useful in furthering their education through transfer to a four-year institution or beyond, or selecting a career in a sector of sustainable agriculture and food systems. The student spends the equivalent of 10 hours per week for 14 weeks performing internship duties over the course of the semester or a total of 140 hours.

Theater (THEA)

Courses

THEA 120   Introduction to Theater (3 Hours) ▷
Students will be introduced to a variety of theatrical experiences, which includes reading plays and analyzing live theatre performances. This course also offers opportunities to experience theatre through set construction, design, stage and costume crew, or acting if the student desires.

THEA 121   Fundamentals of Acting (3 Hours)
This course is designed to teach the fundamentals of acting for those students who have little or no experience in the theatre. We will overview all the tools used by actors, including improvisation, vocal, physical and psychological warm-ups, building trust, relaxation and discipline techniques. Students will complete a minimum of three in-class performances.

THEA 123   Improvisation for the Theater* (2 Hours)
Prerequisites : THEA 121 with a grade of "C" or higher.
The student will be introduced to theater improvisation, which will emphasize creative stage activities not requiring a written script. Participation in activities of this course will release and enhance the work of serious acting students and show the students how to approach characterization viscerally rather than intellectually, spontaneously rather than intentionally.

THEA 130   Acting I* (3 Hours) ⏻▶
Prerequisites : THEA 121 with a grade of "C" or higher or department approval.
Acting I will expand on the skills learned in Fundamentals of Acting and will concentrate on developing scene work. Emphasis will be on expanding creative potential through exercises in self-awareness, posture, movement, voice and personality projection. Students will complete a minimum of four in-class performances.

THEA 131   Voice and Speech (3 Hours) ⏻▶
The student will develop techniques to expand breath support, vocal range and dynamics; learn precise articulation; and strengthen the connection between thought and sound. Through the use of exercises to free, develop and strengthen the voice, the student will be better able to communicate the full range of human emotion and all the nuances of thought. Skills acquired in this course are essential for actors, broadcast journalists, educators and other public speakers.

THEA 133   Technical Practicum I (1 Hour) ⏻▶
Students gain practical experience in technical theater in this course. The student completes the course objectives by working in the theatre department's productions and/or working in the scene/costume shop during the semester.

THEA 134   Performance Practicum I (1 Hour)
This course will enable students to gain practical experience in performance-related aspects of college theater productions. Admission may be granted upon being cast in a JCCC production.

THEA 135   Stage Makeup (2 Hours)
This course is an introductory course which provides an understanding of, and practical skills in, the design and application of makeup for theatrical performance.

THEA 136   Costume Construction (3 Hours)
This is a survey of the theory, techniques and skills used in costume creation for the theater and film. Areas of study and practice include basic construction, patterning and cutting; fabrics, design and realization; millinery; craftwork; and organization.

THEA 137   Movement for the Stage (3 Hours)
The student will develop techniques to expand kinesthetic awareness, flexibility, physical freedom and the language of movement. Through the use of exercises to free, develop and strengthen physical vocabulary, the student will be better able to communicate the physical life of a character. Skills acquired in this course will include mime, stage combat, commedia, improvisation and circus techniques.

THEA 140   Basic Stagecraft (3 Hours) ⏻▶
This course introduces the general student and theater major to basic stagecraft. Through lectures, in-class demonstrations and hands-on experiences, the student will gain a working and appreciative knowledge of technical theater. The course includes 15 lab hours and attendance at two live theatrical productions.

THEA 145   Introduction to Theater Design (3 Hours)
This lecture and studio class introduces the theory and practice of theater design and the graphics and standards of entertainment technology. This course focuses on understanding foundational elements of theatrical design and developing the skills to translate text into visual content. It involves script analysis, research, creative exploration, and visual communication. Emphasis will be on the processes and practices used in designing for the performing arts.

THEA 209   Script Analysis (3 Hours)
Script Analysis introduces students to those methods used in the theater for the study and/or analysis of plays. Directors, actors and designers use script analysis during their preparatory work and then continue to use it through the rehearsal process until, and sometimes even after, the production has finished. This course is of value to the student because it focuses on the crucial elements of a play encountered during the production process including dramatic structure, content and meaning.

THEA 225   Reader's Theater (3 Hours)
Students will combine acting, interpretation and rhetoric as they analyze and perform poetry, prose and dramatic literature and present public performances. Through the process of reading, studying, investing, rehearsing and performing literary and nonliterary works, the student will learn to pay particular attention to the voice embodied in a given text and the cultural and social context within which that voice speaks.

THEA 230   Acting II* (3 Hours) ⏻▶
Prerequisites : THEA 130 with a grade of "C" or higher.
This continuation of Acting I will focus on more in-depth character analysis and development, emphasizing the actor's responsibility in creating the character. Students will complete a minimum of five in-class performances. 3 hrs./wk. plus rehearsals and performances.

THEA 231   Speech for the Actor* (3 Hours)
Prerequisites : THEA 131.
This class will deepen the voice work from THEA 131: Voice and Speech. Work in the classroom will further solidify expansion rather than compression, open channel for sound, vocal resonance, and forward placement. Further exploration of rhetoric and language will be utilized. Vocal range and capacity will be explored. Intensive training will continue in the process of learning a dialect, written dialect transcription, and application of spoken dialect to a text.

THEA 232   Introduction to Stage Directing and Management* (3 Hours)
Prerequisites : THEA 120.
This course is an introductory survey in the process of reading and producing plays. The focus of the course will be on reading a play and understanding the steps necessary to create a production of that play. Some of the topics explored will include play selection, script analysis, the audition process, the rehearsal process, stage management, directing, and the actor-audience-director relationship.

THEA 233   Technical Practicum II* (1 Hour) ▷
Prerequisites : THEA 133.
Students gain practical experience in technical theater in this course. The student completes the course objectives by working on the theatre department's productions and/or working in the scene/costume shop during the semester.

THEA 245   Introduction to Scene Design* (3 Hours)
Prerequisites : THEA 145.
Students will further develop the technical and design techniques of Scenic Design. This includes learning the responsibilities of a Scenic Designer and practicing the process of Scenic Design for theatre from script analysis to executing final design models and drafting.

THEA 250   Introduction to Costume Design (3 Hours)
This course is designed to instruct students on the concepts and realities of costume design. The course will provide hands-on design exercises that will include researching historical time periods, script reading and production analysis, costume rendering techniques, and presenting designs in a production meeting. This course is typically taught in the spring semester. 2 hrs. lecture and 2 hrs. lab/wk.

THEA 260   Introduction to Light, Sound and Projections (3 Hours)
Students will develop technical principles and applications of lighting, sound and projections for the stage. The class will utilize basic light, sound and projection equipment to create visual and audio landscapes. This will include creating light plots, mixing sounds, and mapping projections.

THEA 291   Independent Study* (1-7 Hour)
Prerequisites : 2.0 GPA minimum and department approval.
Independent study is a directed, structured learning experience offered as an extension of the regular curriculum. It is intended to allow individual students to broaden their comprehension of the principles of and competencies associated with the discipline or program. Its purpose is to supplement existing courses with individualized, in-depth learning experiences. Such learning experiences may be undertaken independent of the traditional classroom setting, but will be appropriately directed and supervised by regular instructional staff. Total contact hours vary based on the learning experience.

THEA 292   Special Topics:* (3 Hours)
Prerequisites : Department approval.
This course periodically offers specialized or advanced discipline-specific content related to performance, technical theatre, and design not normally taught in the curriculum, to interested and qualified students within the program. This is a repeatable course and may be taken more than once for credit.

Web Development and Digital Media (WEB)

Courses

WEB 110   HTML and CSS (3 Hours)
This course will cover the essential skills needed to create responsive websites, using HyperText Markup Language (HTML) and Cascading Style Sheets (CSS). Students will be introduced to the concepts, foundations, syntax and structure of HTML and CSS. Additional topics include the use of File Transfer Protocol (FTP) to publish websites and validation to web standards established by the World Wide Web Consortium (W3C) and other organizations.

WEB 112   Professional Skills for the Digital Developer (3 Hours)
This course covers the development of a professional digital portfolio. Also, students will use technology to achieve effective team management, project management and problem-solving skills. Current and relevant legal, ethical and governmental issues important to a career in digital development are also covered. Professional branding through social media, resume and cover letter will be produced. Self-promotion, networking, job searches and interview skills will also be covered.

WEB 114   Web Scripting: JavaScript I* (2 Hours)
Prerequisites or corequisites: WEB 110.
Students will study the purpose for and principles of client-side scripting using JavaScript. Topics include JavaScript variables, operators, expressions, functions, control structures, arrays and event listeners. Students will use professional techniques to write and debug code. JavaScript security issues will be explored.

WEB 116   Digital Media Concepts (2 Hours)
This course examines the digital media creation process and the impact of emerging technology on that process. Emphasis is placed on the need to understand target audiences, as well as the impact of content on those audiences. Creative culture is examined so students may begin to understand the relationship between ideas and the structure and management of the organizations and intellectual property systems used to express those ideas.

WEB 118   Digital Workflow (3 Hours)
The course introduces the terminology, planning, processes, and tools needed for web development and digital media projects. Students will be introduced to current and best practice strategies, including how to manage client expectations, develop requirements for designing in the browser, create style guides and documentation, develop techniques for handling responsive design requirements, and visualizing the points where responsive designs change.

WEB 120   Web Analytics* (3 Hours)
Prerequisites : WEB 110.
Upon successful completion of this course, students should be able to implement and apply Web analytics techniques. Topics to be covered include Web traffic analysis, data collection methodologies, report analysis, best-practices configuration and search engine optimization.

WEB 121   Digital Media Assets* (4 Hours)
Prerequisites or corequisites: WEB 116.
This course focuses on technologies and workflows in managing digital image, digital video and audio assets throughout an asset's life cycle. Through the study of digital and interactive media and its application in information technology, students will analyze and assess current and emerging technologies. Students will design and create multimedia projects that address customer needs and solve real world problems. Students implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society.

WEB 122   CSS Techniques & Projects* (3 Hours)
Prerequisites : WEB 110.
Students will apply Cascading Style Sheet (CSS) techniques through the use of professional, advanced website development projects. Industry-standard Hypertext Markup Language (HTML) semantic markup practices and presentation separation through CSS is emphasized. CSS topics include professional syntax practices, formatting and layout skills. Advanced CSS skills for float, positioning, alignment and image formatting are covered.

WEB 124   Web Scripting: JavaScript II* (2 Hours)
Prerequisites : WEB 114.
Students will apply JavaScript to interact with the Document Object Model (DOM) and the Browser Object Model (BOM). Students will also use JavaScript to enhance and validate form data, to manipulate data in strings and arrays, and will build upon their object-oriented programming skills by working with built-in JavaScript objects as well as custom objects. Students will study and apply coding techniques to address JavaScript linting, debugging, and security issues.

WEB 125   Digital Video Tools (1 Hour)
This introductory video production technology course will cover basic desktop computer operating systems and the technologies used to bring photographic (film, video, still) images and audio into the digital domain. Students will learn to prepare audio and video media from pre-production to post-production techniques for digital delivery systems and the Internet.

WEB 126   Technical Interface Skills* (3 Hours)
Prerequisites : WEB 110.
This course will cover the skills needed to successfully develop Information Architecture (IA) blueprints from concept to completion. Students will use fundamental visual principles, perception, color, composition and typography to analyze and modify existing IA plans while keeping consistent structure. They will create complementary visuals that maintain a client's brand while working through the modification process. Students will review the critical universal usability rules and basic visual design principles quintessential of a design team and to implement an aesthetic vision through every step of development.

WEB 128   Server Scripting: PHP with MySQL* (2 Hours)
Prerequisites : WEB 110.
This course covers the commands and techniques available to add functionality to Web pages using Hypertext Preprocessor (PHP). Students will build client-side PHP scripts with variables, functions, expressions, methods and events to validate forms and enhance Web page functionality. The basics of server-side scripting are introduced. Students also define and build a relational database using MySQL, then use PHP scripts as well as SQL in a Web page to connect to the database to edit, delete and enter records.

WEB 172   WordPress I* (1 Hour)
Prerequisites or corequisites: WEB 110 or (CSS 105 or CPCA 105) or (CSS 106 or CPCA 106) or (CSS 128 or CPCA 128) or an appropriate score on a waiver test.
This course will cover the commands and techniques required to create and revise blogs and websites using WordPress. Topics to be covered will include basic blogging techniques, working with digital images, hosting, spam and security issues, plugins and themes. Real-world applications of WordPress will be the primary focus of this course. Hands-on, practical projects will be performed to reinforce the concepts.

WEB 225   Advanced Digital Video Tools* (1 Hour)
Prerequisites or corequisites: WEB 125.
In this advanced video course, students will work with video capture and post-production technologies. Students will expand on prior experience with basic audio and video pre-production and post-production techniques and learn advanced skills, including: audio, keyframing, adjustment layers, masks/mattes, greenscreen and motion tracking.

WEB 231   User Experience* (4 Hours)
Prerequisites : WEB 126.
This course will serve as a broad survey of the user experience design process for interactive products and services. Students will learn the building blocks of the user experience including interaction design, design research, information architecture and design principles. It will also provide knowledge of how to evaluate user experience concepts using methods such as heuristic evaluation, prototyping and usability studies. Through readings, critiques, exercises and discussions, students will explore what makes the experience of an interactive media application successful.

WEB 233   Visual Storytelling (3 Hours)
Storytelling is how people share ideas and meaning. It's how we communicate, reach each other and connect. This course provides an introduction to the methods and tools of visual storytelling. Students will explore the impact of visual storytelling and how to communicate visually. Students will use storytelling techniques enabling them to create, design and produce stories using digital media. This course will explore the key elements to tell realistic and compelling visual stories. Students will write scripts, design storyboards, create still and moving images using music and narration to tell their stories.

WEB 234   Web Apps I* (3 Hours)
Prerequisites : WEB 124.
Mobile devices outnumber desktop and laptop computers three to one worldwide. This course will cover practical guidelines, standards, techniques and best practices for building Web applications using Client-Side programming including Hypertext Markup Language (HTML), Cascading Style Sheet (CSS) and JavaScript, including basic design and development principles for all mobile devices and platforms. Students will have strong knowledge about the methods and tools used in developing Web applications.

WEB 236   Content Management Systems Development* (3 Hours)
Prerequisites : WEB 128.
Content Management Systems (CMS) have gained in popularity as the number of robust and complex websites continues to grow. Students will cover the life cycle of websites, including their creation, management, distribution and publishing of content. This hands-on course will cover open source CMS applications such as Joomla, Drupal, WordPress and other technologies and the resources available to designers and developers. Students will explore the fundamentals of planning dynamic websites, CMS database management, developing Cascading Style Sheet (CSS)-controlled site templates, and creating database-driven websites through the planning and creation of their own topic-based sites. Student exercises include how to interact, engage and contribute to online communities and projects.

WEB 237   Emerging Technologies* (3 Hours)
Prerequisites : WEB 126.
This course provides a practical approach to encourage greater understanding and analysis of emerging technologies such as the web, social media, mobile apps, video games and wearables. The course focuses on how companies, organizations and individuals are using digital media to communicate and connect with all of their various stakeholder groups, including consumers. As the media environment changes with new technological capabilities to distribute and retrieve messages, companies' promotional communication strategies must adapt as well. This course exposes students to the decision-making involved in a promotional communication context in terms of both message content development and placement.

WEB 238   Interactive Scripting: JQuery* (4 Hours)
Prerequisites : WEB 122 and WEB 124.
Designers and developers can use jQuery to have complete access to all Cascading Style Sheets (CSS) styles of any element on a Web page, effortless Web page content manipulation via filters and patterns, detection or creation of events (mouse movement or click), moving, hiding and fading elements and other features. Students will be exposed to how to write efficient jQuery selectors to round up sets of Document Object Model (DOM) elements, how to use the framework's many methods to manipulate DOM elements, how to use the jQuery event application programming interface (API) to set up event listeners and event delegation, how to manage Ajax requests with jQuery and how to extend jQuery with custom filters and methods.

WEB 239   Introduction to Application Programming Interfaces (APIs)* (2 Hours)
Prerequisites : WEB 114.
This course will introduce and explain how application programming interfaces (APIs) work covering the essentials of this core piece of modern web development, explaining what APIs are and how to use them to quickly incorporate data into your websites. Students will use APIs to consume and obtain data from APIs. Topics include the basics of associated technologies and skills, such as JavaScript Object Notation (JSON) and object-oriented programming, and shows how to handle errors you might encounter when trying to obtain data from an API.

WEB 240   HTML and CSS II* (3 Hours)
Prerequisites : WEB 124.
This course focuses on the latest generation of browser-based technologies for front-end design and development. Topics in the course include Cascading Style Sheets (CSS), HyperText Markup Language (HTML) elements, HTML Application Programming Interface (API), forms, audio and video, offline applications, Canvas drawing and animation, communication APIs, Web Sockets and Web Workers, Geolocation, local and session storage, Web Structured Query language (SQL) Database, and advanced topics such as mobile Web applications, performance analysis, browser issues and developer tools.

WEB 243   Search Engine Optimization* (1 Hour)
Prerequisites : WEB 110.
This course will cover how to optimize a website to maximize search engine ranking. Upon completion of the course students will be able to identify and implement effective website designs and strategies for search engine optimization.

WEB 245   Motion Graphics Tools* (1 Hour)
Prerequisites or corequisites: WEB 125.
This course is designed to introduce students to motion graphics and special effects. All basic applications of the program will be touched upon including credits, transitions, filters, masks and mattes. Students will experience the complete motion graphics workflow, beginning by capturing their own still images and videos and concluding by rendering and exporting an original composition.

WEB 290   Web Development and Digital Media Capstone* (3 Hours)
Prerequisites : Department approval.
This course is the culmination of the course work that makes up the Web Development and Digital Media AAS degree. It incorporates elements from each of the core program courses to allow students to walk through the entire Web design process, including design/project documentation, wire framing, creating mock-ups, revisions, pages and final deliverables. Upon completion of course, students will have a professional website that can serve as part of their professional portfolio.

WEB 292   Special Topics:* (1-3 Hour)
Prerequisites : Department approval.
This course periodically presents specialized topics in Web Development and Digital Media that are not available in the regularly offered curriculum. Special Topics may be repeated for credit, but only on different topics. This is a repeatable course and may be taken more than once for credit.

WEB 294   Web Development and Digital Media Internship* (1 Hour)
Prerequisites : Department approval.
Web Development and Digital Media Internship provides students with the opportunity to gain experience in the workplace and translate classroom learning into practice. An internship experience provides the student with an opportunity to explore career interests while applying knowledge and skills learned in the classroom in a work setting. The experience also helps students gain a clearer sense of what they still need to learn and provides an opportunity to build professional networks. 180 hours minimum requirement of on-the-job training.

Women and Gender Studies (WGS)

Courses

WGS 201   Global Women's Studies (3 Hours)
The course is intended to increase student understanding of the history and experiences of women. It principally focuses on the ways in which gender interacts with race/ethnicity, social class, sexual orientation, religion, age, nationality and other cultural identities to create differences and similarities in gendered lives. Students will critically examine and compare through a multidisciplinary approach the voices and experiences of women representing both domestic and global diversities. Selected topics may include gender socialization; the female body and the sociopolitical context of reproduction, body image, appearance and of sexuality; similarities and differences between the genders; marriage and the family; work roles, inequalities and the global economy; health issues; violence against and by women; women in religion and politics; and a historical and contemporary look at global feminism.

WGS 220   The Many Women of Islam (3 Hours)
This course introduces students to Islam and the many ways in which Islam views women. It explores the relationship of the ideal teachings of the Qur'an to the everyday realities of marriage, family, divorce, education, religious participation, health, reproduction, violence, body image, economics, the workplace, political participation, and other topics in the context of the many nations and cultures in which Muslim women reside. Underlying the unity of the Islamic world is a diversity of interpretations and practices that are mediated by those many nations and cultures which compose it. This diversity within unity is reflected in the lives of the many women of Islam.

Degree Requirements

JCCC Degrees

JCCC offers five general degree types. Each type has specific courses for **General Education** required to fulfill to earn the specific degree.

- Associate of Arts (p. 136)
- Associate of Fine Arts (p. 148)
- Associate of Science (p. 163)
- Associate of Applied Science (p. 180)
- Associate of General Studies (p. 185)

Students in all degree and certificate programs must also meet the standard JCCC Graduation Requirements (https://www.jccc.edu/student-resources/graduation/). For information on how to participate in the JCCC graduation ceremony, please see Commencement (http://www.jccc.edu/student-resources/graduation/commencement.html).

Statement of General Education

General education at Johnson County Community College combines essential thinking skills with knowledge from areas such as the arts, communications, humanities, language, mathematics, natural sciences, physical sciences, and social sciences. It prepares students to become lifelong learners capable of making informed, ethical decisions in an increasingly complex and diverse global community.

Students who pursue a course of study at JCCC will be expected to:

- Demonstrate information literacy by finding, interpreting, evaluating, and using sources.

- Apply problem-solving strategies using appropriate disciplinary or cross-disciplinary methods.

- Communicate effectively in a variety of contexts.

- Demonstrate knowledge of the broad diversity of the human experience and the individual's connection to the global society.

- Process numeric, symbolic, and graphic information to draw informed conclusions.

- Comprehend, analyze, and synthesize written, visual, and aural material.

Associate of Arts

The associate of arts degree from JCCC:

- is designed for students who plan to transfer to another college or university to earn a bachelor's degree.

- requires a minimum of 60 college-level credit hours within specified categories with a 2.0 or higher GPA.

- requires a minimum of 34 credit hours of Kansas Systemwide General Education requirements.

- requires a minimum of 25 additional credit hours of open electives.

- requires the completion of a JCCC Cultural Diversity designated course (p. 145) from a list of approved courses. Some of the courses in this list will also meet Kansas Systemwide General Education requirements.

The associate of arts degree is designed as a transfer degree. Students should refer to transfer information (https://www.jccc.edu/student-resources/transfer/), meet with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/), and create a plan when selecting courses.

Kansas Systemwide General Education Requirements

English (6 hrs.)

Code	Title	Hours
ENGL 121	Composition I*	3
ENGL 122	Composition II*	3

Communications (3 hrs.)

Code	Title	Hours
3 hours required from the following courses:		
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	

Math and Statistics (3 hrs.)

Code	Title	Hours
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4

Natural and Physical Sciences (4-5 hrs.)

Code	Title	Hours
Minimum 4 hours of a lab science required from the following courses:		
Natural Science		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
Physical Science		
ASTR 122	Astronomy	4
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2

PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4

Social and Behavioral Sciences (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Anthropology		
ANTH 125	Cultural Anthropology ±	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures ±	3
ANTH 142	World Prehistory ±	3
ANTH 165	Linguistic Anthropology ±	3
Criminal Justice		
CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems ±	3
Economics		
ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3
Geography		
GEOS 145	World Regional Geography ±	3
GEOS 155	Human Geography ±	3
Legal Studies		
LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3
Political Science		
POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government ±	3
POLS 135	International Relations ±	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory ±	3
POLS 200	Model United Nations ±	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3
Psychology		
PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3
Sociology		
SOC 122	Introduction to Sociology ±	3
SOC 125	Social Problems ±	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare ±	3
Women and Gender Studies		
WGS 201	Global Women's Studies ±	3

Arts and Humanities (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Art History		
ARTH 180	Art History: Ancient to Medieval ±	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century ±	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society ±	3
English		
English (Literature)		
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature* ±	3
ENGL 217	Literature by Women* ±	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 232	Children's Literature* ±	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
English (Writing)		
ENGL 123	Technical Writing I*	3
ENGL 140	Writing for Interactive Media*	3
ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3
Communications		
COMS 180	Intercultural Communication	3
Film and Media Studies		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
Foreign Languages		
FL 120	Elementary German I ±	5
FL 121	Elementary German II* ±	5
FL 130	Elementary Spanish I ±	5
FL 131	Elementary Spanish II* ±	5
FL 140	Elementary French I ±	5
FL 141	Elementary French II* ±	5
FL 165	Elementary Chinese I ±	5
FL 166	Elementary Chinese II* ±	5
FL 170	Elementary Japanese I ±	5
FL 171	Elementary Japanese II* ±	5
FL 182	Intermediate Japanese I* ±	5
FL 183	Intermediate Japanese II* ±	5
FL 192	Intermediate Chinese I* ±	3
FL 193	Intermediate Chinese II* ±	3
FL 220	Intermediate German I* ±	3
FL 221	Intermediate German II* ±	3
FL 230	Intermediate Spanish I* ±	3

FL 231	Intermediate Spanish II* ±	3
FL 240	Intermediate French I* ±	3
FL 241	Intermediate French II* ±	3
History		
HIST 120	Local and Kansas History ±	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History ±	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa ±	3
HIST 135	Eastern Civilization ±	3
HIST 137	African American History ±	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt ±	3
HIST 145	History of Ancient Rome ±	3
HIST 149	History of India ±	3
HIST 151	World History: Traditional ±	3
HIST 152	World History: Modern World ±	3
HIST 160	Modern Russian History ±	3
HIST 162	Modern Latin America ±	3
HIST 165	History of China ±	3
HIST 167	Introduction to History: Japan ±	3
HIST 180	North American Indian History ±	3
HIST 195	History of the Middle East ±	3
HIST 210	Environmental History of North America	3
HIST 250	American West	3
HIST 260	Women in U.S. History ±	3
Humanities		
HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval ±	3
HUM 146	World Humanities: Renaissance to Modern ±	3
HUM 155	Classical Mythology	3
HUM 156	Contemporary Approaches to World Mythology ±	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture ±	3
Journalism		
JOUR 120	Mass Media and Society	3
Music		
MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music ±	3
MUS 128	History of Rock and Roll Music ±	3
Philosophy		
PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3
PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3

Photography

PHOT 200	Foundations in Photography	3

Religion

REL 120	Exploring World Religions $^\pm$	3
REL 125	Asian Religions $^\pm$	3
REL 126	Religions of the West $^\pm$	3

Theater

THEA 120	Introduction to Theater	3

Cavalier Credits (6 hrs.)

Code	Title	Hours
Communications		
COMS 120	Interpersonal Communication	3
COMS 121	Public Speaking	3
COMS 125	Personal Communication	3
COMS 180	Intercultural Communication $^\pm$	3
Math and Statistics		
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4
Natural and Physical Sciences		
Natural Science		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
EVRN 124	Oceanus: Essentials of Oceanography (non-lab science)	3
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
EVRN 134	Principles of Sustainability (non-lab science)	3
Physical Science		
ASTR 120	Fundamentals of Astronomy (non-lab science)	3
ASTR 122	Astronomy	4
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5

CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
ENGR 121	Engineering Orientation	2
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4

Social and Behavioral Sciences

Anthropology

ANTH 125	Cultural Anthropology ±	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures ±	3
ANTH 142	World Prehistory ±	3
ANTH 165	Linguistic Anthropology ±	3

Criminal Justice

CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems ±	3

Economics

ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3

Geography

GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3

Legal Studies

LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3

Political Science

POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government ±	3
POLS 135	International Relations ±	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory ±	3
POLS 200	Model United Nations ±	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3

Psychology

PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3

Sociology

SOC 122	Introduction to Sociology [±]	3
SOC 125	Social Problems [±]	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare [±]	3
Women and Gender Studies		
WGS 201	Global Women's Studies [±]	3
Arts and Humanities		
Art History		
ARTH 180	Art History: Ancient to Medieval [±]	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century [±]	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society [±]	3
English		
English (Literature)		
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature* [±]	3
ENGL 217	Literature by Women* [±]	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 232	Children's Literature* [±]	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
English (Writing)		
ENGL 123	Technical Writing I*	3
ENGL 140	Writing for Interactive Media*	3
ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3
Film and Media Studies		
FMS 100	Intro to Film [±]	3
FMS 200	Intro to Filmmaking and Media Aesthetics [±]	3
Foreign Languages		
FL 120	Elementary German I [±]	5
FL 121	Elementary German II* [±]	5
FL 130	Elementary Spanish I [±]	5
FL 131	Elementary Spanish II* [±]	5
FL 140	Elementary French I [±]	5
FL 141	Elementary French II* [±]	5
FL 165	Elementary Chinese I [±]	5
FL 166	Elementary Chinese II* [±]	5
FL 170	Elementary Japanese I [±]	5
FL 171	Elementary Japanese II* [±]	5
FL 182	Intermediate Japanese I* [±]	5
FL 183	Intermediate Japanese II* [±]	5
FL 192	Intermediate Chinese I* [±]	3
FL 193	Intermediate Chinese II* [±]	3
FL 220	Intermediate German I* [±]	3

FL 221	Intermediate German II* ±	3
FL 230	Intermediate Spanish I* ±	3
FL 231	Intermediate Spanish II* ±	3
FL 240	Intermediate French I* ±	3
FL 241	Intermediate French II* ±	3
History		
HIST 120	Local and Kansas History ±	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History ±	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa ±	3
HIST 135	Eastern Civilization ±	3
HIST 137	African American History ±	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt ±	3
HIST 145	History of Ancient Rome ±	3
HIST 149	History of India ±	3
HIST 151	World History: Traditional ±	3
HIST 152	World History: Modern World ±	3
HIST 160	Modern Russian History ±	3
HIST 162	Modern Latin America ±	3
HIST 165	History of China ±	3
HIST 167	Introduction to History: Japan ±	3
HIST 180	North American Indian History ±	3
HIST 195	History of the Middle East ±	3
HIST 210	Environmental History of North America	3
HIST 250	American West	3
HIST 260	Women in U.S. History ±	3
Humanities		
HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval ±	3
HUM 146	World Humanities: Renaissance to Modern ±	3
HUM 155	Classical Mythology	3
HUM 156	Contemporary Approaches to World Mythology ±	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture ±	3
Journalism		
JOUR 120	Mass Media and Society	3
Music		
MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music ±	3
MUS 128	History of Rock and Roll Music ±	3
Philosophy		
PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3

PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3
Photography		
PHOT 200	Foundations in Photography	3
Religion		
REL 120	Exploring World Religions [±]	3
REL 125	Asian Religions [±]	3
REL 126	Religions of the West [±]	3
Theater		
THEA 120	Introduction to Theater	3

General Education Hours: 34-35

Open Elective Hours

Code	Title	Hours
Open electives are non-developmental courses meeting degree requirements. Please consult with a JCCC counselor for more information. (p. 9)		25-26

Elective Hours: 25-26

Total Program Hours: 60

Cultural Diversity Courses

Code	Title	Hours
These courses fulfill JCCC's Cultural Diversity requirement for the AA, AFA, and AS degrees.; one course required.		
Anthropology		
ANTH 125	Cultural Anthropology	3
ANTH 130	World Cultures	3
ANTH 134	Native Americans	3
ANTH 135	American Indian Art	3
ANTH 142	World Prehistory	3
ANTH 150	People and Cultures of Mesoamerica	3
ANTH 153	The Anthropology of the Paranormal & Supernatural	3
ANTH 165	Linguistic Anthropology	3
Art History		
ARTH 135	American Indian Art	3
ARTH 180	Art History: Ancient to Medieval	3
ARTH 184	Art History: Twentieth Century	3
ARTH 186	Art History: Introduction to Asian Art	3
ARTH 200	Women, Art, and Society	3
Biology		
BIOL 132	Introduction to Public Health	3
Business		
BUS 235	Introduction to International Business	3
Communications		
COMS 180	Intercultural Communication	3
Criminal Justice		
CJ 223	International Criminal Justice Systems	3
Education and Early Childhood		
EDUC 221	Diversity, Equity and Inclusion for K-12 Educators	3
English (Literature)		
ENGL 215	U.S. Latino and Latina Literature*	3
ENGL 217	Literature by Women*	3
ENGL 232	Children's Literature*	3
ENGL 244	Literature of American Popular Music*	3

Film and Media Studies

FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3

Foreign Languages

FL 120	Elementary German I	5
FL 121	Elementary German II*	5
FL 130	Elementary Spanish I	5
FL 131	Elementary Spanish II*	5
FL 135	Basic Spanish for Hospitality Management	3
FL 140	Elementary French I	5
FL 141	Elementary French II*	5
FL 165	Elementary Chinese I	5
FL 166	Elementary Chinese II*	5
FL 170	Elementary Japanese I	5
FL 171	Elementary Japanese II*	5
FL 182	Intermediate Japanese I*	5
FL 183	Intermediate Japanese II*	5
FL 220	Intermediate German I*	3
FL 221	Intermediate German II*	3
FL 230	Intermediate Spanish I*	3
FL 231	Intermediate Spanish II*	3
FL 240	Intermediate French I*	3
FL 241	Intermediate French II*	3
FL 288	Spanish for Heritage and Advanced Speakers of Spanish*	3

Geography

GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3

Global and International Studies

GIST 101	Study Abroad Reflections*	1-3
GIST 250	Introduction to Globalization	3

Health Care

HC 125	International Awareness Field Study	2

History

HIST 120	Local and Kansas History	3
HIST 128	Medieval History	3
HIST 132	History of Africa	3
HIST 135	Eastern Civilization	3
HIST 137	African American History	3
HIST 143	Ancient Greece, the Near East and Egypt	3
HIST 145	History of Ancient Rome	3
HIST 149	History of India	3
HIST 150	Islam: Religion and Civilization	3
HIST 151	World History: Traditional	3
HIST 152	World History: Modern World	3
HIST 160	Modern Russian History	3
HIST 162	Modern Latin America	3
HIST 165	History of China	3
HIST 167	Introduction to History: Japan	3
HIST 180	North American Indian History	3
HIST 195	History of the Middle East	3
HIST 260	Women in U.S. History	3

Humanities

HUM 137	Introduction to Russian Culture	3
HUM 145	World Humanities: Ancient to Medieval	3
HUM 146	World Humanities: Renaissance to Modern	3
HUM 150	Islam: Religion and Civilization	3
HUM 156	Contemporary Approaches to World Mythology	3
HUM 167	Introduction to Japanese Culture	3

Journalism

JOUR 220	International Media	3

Music

MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3

Philosophy

PHIL 142	History of Asian Philosophy	3
PHIL 177	Feminist Theory	3

Photography

PHOT 200	Foundations in Photography	3

Physical Education, Health and Recreation

HPER 251	Sport and Society	3

Political Science

POLS 132	Introduction to Comparative Government	3
POLS 135	International Relations	3
POLS 192	Political Theory	3
POLS 200	Model United Nations	3

Psychology

PSYC 205	Human Sexuality*	3
PSYC 220	Social Psychology*	3

Religion

REL 120	Exploring World Religions	3
REL 125	Asian Religions	3
REL 126	Religions of the West	3
REL 150	Islam: Religion and Civilization	3

Sociology

SOC 122	Introduction to Sociology	3
SOC 125	Social Problems	3
SOC 146	Introduction to Social Work and Social Welfare	3
SOC 165	Contemporary Chinese Society	3
SOC 180	Inequality and Diversity in The United States	3
SOC 240	Sociology of Community	3
SOC 270	Men and Masculinities	3

Sustainable Agriculture

SAG 205	Agroecology in the Americas	3

Women and Gender Studies

WGS 201	Global Women's Studies	3
WGS 220	The Many Women of Islam	3

*   This course has registration requirements.

±   This course fulfills JCCC's Cultural Diversity requirement for the AA, AFA, and AS degrees.

Associate of Fine Arts

The associate of fine arts degree from JCCC:

- is designed for students who plan to transfer to another college or university to earn a bachelor's degree.

- requires a minimum of 60 college-level credit hours within specified categories with a 2.0 or higher GPA.

- requires a minimum of 34 credit hours of Kansas Systemwide General Education requirements.

- requires a minimum of 25 additional credit hours of fine arts electives.

- requires the completion of a JCCC Cultural Diversity designated course (p. 160) from a list of approved courses. Some of the courses in this list will also meet Kansas Systemwide General Education requirements.

The associate of fine arts degree is designed as a transfer degree. Students should refer to transfer information (https://www.jccc.edu/student-resources/transfer/), meet with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/), and create a plan when selecting courses.

Kansas Systemwide General Education Requirements

English (6 hrs.)

Code	Title	Hours
ENGL 121	Composition I*	3
ENGL 122	Composition II*	3

Communications (3 hrs.)

Code	Title	Hours
3 hours required from the following courses:		
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	

Math and Statistics (3 hrs.)

Code	Title	Hours
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4

Natural and Physical Sciences (4-5 hrs.)

Code	Title	Hours
Minimum 4 hours of a lab science required from the following courses:		
Natural Science		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4

BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
Physical Science		
ASTR 122	Astronomy	4
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4

Social and Behavioral Sciences (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Anthropology		
ANTH 125	Cultural Anthropology [±]	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures [±]	3
ANTH 142	World Prehistory [±]	3
ANTH 165	Linguistic Anthropology [±]	3
Criminal Justice		
CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems [±]	3
Economics		
ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3
Geography		
GEOS 145	World Regional Geography [±]	3
GEOS 155	Human Geography [±]	3
Legal Studies		
LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3
Political Science		
POLS 122	Political Science	3

POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government ±	3
POLS 135	International Relations ±	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory ±	3
POLS 200	Model United Nations ±	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3
Psychology		
PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3
Sociology		
SOC 122	Introduction to Sociology ±	3
SOC 125	Social Problems ±	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare ±	3
Women and Gender Studies		
WGS 201	Global Women's Studies ±	3

Arts and Humanities (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Art History		
ARTH 180	Art History: Ancient to Medieval ±	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century ±	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society ±	3
English		
English (Literature)		
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature* ±	3
ENGL 217	Literature by Women* ±	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 232	Children's Literature* ±	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
English (Writing)		
ENGL 123	Technical Writing I*	3
ENGL 140	Writing for Interactive Media*	3
ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3
Communications		

COMS 180	Intercultural Communication	3
Film and Media Studies		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
Foreign Languages		
FL 120	Elementary German I [±]	5
FL 121	Elementary German II* [±]	5
FL 130	Elementary Spanish I [±]	5
FL 131	Elementary Spanish II* [±]	5
FL 140	Elementary French I [±]	5
FL 141	Elementary French II* [±]	5
FL 165	Elementary Chinese I [±]	5
FL 166	Elementary Chinese II* [±]	5
FL 170	Elementary Japanese I [±]	5
FL 171	Elementary Japanese II* [±]	5
FL 182	Intermediate Japanese I* [±]	5
FL 183	Intermediate Japanese II* [±]	5
FL 192	Intermediate Chinese I* [±]	3
FL 193	Intermediate Chinese II* [±]	3
FL 220	Intermediate German I* [±]	3
FL 221	Intermediate German II* [±]	3
FL 230	Intermediate Spanish I* [±]	3
FL 231	Intermediate Spanish II* [±]	3
FL 240	Intermediate French I* [±]	3
FL 241	Intermediate French II* [±]	3
History		
HIST 120	Local and Kansas History [±]	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History [±]	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa [±]	3
HIST 135	Eastern Civilization [±]	3
HIST 137	African American History [±]	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt [±]	3
HIST 145	History of Ancient Rome [±]	3
HIST 149	History of India [±]	3
HIST 151	World History: Traditional [±]	3
HIST 152	World History: Modern World [±]	3
HIST 160	Modern Russian History [±]	3
HIST 162	Modern Latin America [±]	3
HIST 165	History of China [±]	3
HIST 167	Introduction to History: Japan [±]	3
HIST 180	North American Indian History [±]	3
HIST 195	History of the Middle East [±]	3
HIST 210	Environmental History of North America	3
HIST 250	American West	3
HIST 260	Women in U.S. History [±]	3
Humanities		

HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval ±	3
HUM 146	World Humanities: Renaissance to Modern ±	3
HUM 155	Classical Mythology	3
HUM 156	Contemporary Approaches to World Mythology ±	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture ±	3
Journalism		
JOUR 120	Mass Media and Society	3
Music		
MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music ±	3
MUS 128	History of Rock and Roll Music ±	3
Philosophy		
PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3
PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3
Photography		
PHOT 200	Foundations in Photography	3
Religion		
REL 120	Exploring World Religions ±	3
REL 125	Asian Religions ±	3
REL 126	Religions of the West ±	3
Theater		
THEA 120	Introduction to Theater	3

Cavalier Credits (6 hrs.)

Code	Title	Hours
Communications		
COMS 120	Interpersonal Communication	3
COMS 121	Public Speaking	3
COMS 125	Personal Communication	3
COMS 180	Intercultural Communication ±	3
Math and Statistics		
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4

Natural and Physical Sciences

Natural Science

BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
EVRN 124	Oceanus: Essentials of Oceanography (non-lab science)	3
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
EVRN 134	Principles of Sustainability (non-lab science)	3

Physical Science

ASTR 120	Fundamentals of Astronomy (non-lab science)	3
ASTR 122	Astronomy	4
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
ENGR 121	Engineering Orientation	2
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4

Social and Behavioral Sciences

Anthropology

ANTH 125	Cultural Anthropology [±]	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures [±]	3
ANTH 142	World Prehistory [±]	3
ANTH 165	Linguistic Anthropology [±]	3

Criminal Justice

CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems [±]	3

Economics

ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3

Geography

GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3
Legal Studies		
LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3
Political Science		
POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government ±	3
POLS 135	International Relations ±	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory ±	3
POLS 200	Model United Nations ±	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3
Psychology		
PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3
Sociology		
SOC 122	Introduction to Sociology ±	3
SOC 125	Social Problems ±	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare ±	3
Women and Gender Studies		
WGS 201	Global Women's Studies ±	3
Arts and Humanities		
Art History		
ARTH 180	Art History: Ancient to Medieval ±	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century ±	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society ±	3
English		
English (Literature)		
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature* ±	3
ENGL 217	Literature by Women* ±	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 232	Children's Literature* ±	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
English (Writing)		
ENGL 123	Technical Writing I*	3

ENGL 140	Writing for Interactive Media*	3
ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3
Film and Media Studies		
FMS 100	Intro to Film [±]	3
FMS 200	Intro to Filmmaking and Media Aesthetics [±]	3
Foreign Languages		
FL 120	Elementary German I [±]	5
FL 121	Elementary German II* [±]	5
FL 130	Elementary Spanish I [±]	5
FL 131	Elementary Spanish II* [±]	5
FL 140	Elementary French I [±]	5
FL 141	Elementary French II* [±]	5
FL 165	Elementary Chinese I [±]	5
FL 166	Elementary Chinese II* [±]	5
FL 170	Elementary Japanese I [±]	5
FL 171	Elementary Japanese II* [±]	5
FL 182	Intermediate Japanese I* [±]	5
FL 183	Intermediate Japanese II* [±]	5
FL 192	Intermediate Chinese I* [±]	3
FL 193	Intermediate Chinese II* [±]	3
FL 220	Intermediate German I* [±]	3
FL 221	Intermediate German II* [±]	3
FL 230	Intermediate Spanish I* [±]	3
FL 231	Intermediate Spanish II* [±]	3
FL 240	Intermediate French I* [±]	3
FL 241	Intermediate French II* [±]	3
History		
HIST 120	Local and Kansas History [±]	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History [±]	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa [±]	3
HIST 135	Eastern Civilization [±]	3
HIST 137	African American History [±]	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt [±]	3
HIST 145	History of Ancient Rome [±]	3
HIST 149	History of India [±]	3
HIST 151	World History: Traditional [±]	3
HIST 152	World History: Modern World [±]	3
HIST 160	Modern Russian History [±]	3
HIST 162	Modern Latin America [±]	3
HIST 165	History of China [±]	3
HIST 167	Introduction to History: Japan [±]	3
HIST 180	North American Indian History [±]	3
HIST 195	History of the Middle East [±]	3
HIST 210	Environmental History of North America	3
HIST 250	American West	3

HIST 260	Women in U.S. History [±]	3
Humanities		
HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval [±]	3
HUM 146	World Humanities: Renaissance to Modern [±]	3
HUM 155	Classical Mythology	3
HUM 156	Contemporary Approaches to World Mythology [±]	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture [±]	3
Journalism		
JOUR 120	Mass Media and Society	3
Music		
MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music [±]	3
MUS 128	History of Rock and Roll Music [±]	3
Philosophy		
PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3
PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3
Photography		
PHOT 200	Foundations in Photography	3
Religion		
REL 120	Exploring World Religions [±]	3
REL 125	Asian Religions [±]	3
REL 126	Religions of the West [±]	3
Theater		
THEA 120	Introduction to Theater	3

General Education Hours: 34-35

AFA Electives

Code	Title	Hours
Requires the completion of 25-26 additional credit hours to be selected from the list of AFA elective options.		
Animation		
ANI 122	Digital Rendering for Animation	3
ANI 125	Introduction to 2D Animation	3
ANI 130	Motion Graphics and Effects*	3
ANI 150	Introduction to 3D Modeling, Texturing and Materials	3
Art History		
ARTH 135	American Indian Art	3
ARTH 180	Art History: Ancient to Medieval	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century	3
ARTH 186	Art History: Introduction to Asian Art	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society	3
ARTH 292	Special Topics:	3
Art		

ART 124	Design 2D	3
ART 127	Design 3D*	3
ART 129	Design Color	3
ART 130	Drawing I	3
ART 131	Drawing II*	3
ART 135	Painting I	3
ART 136	Painting II*	3
ART 138	Digital Imaging for Artists I	3
ART 142	Ceramics I	3
ART 143	Ceramics II*	3
ART 145	Sculpture I	3
ART 146	Sculpture II*	3
ART 148	Metal and Silversmithing I	3
ART 149	Metal and Silversmithing II*	3
ART 172	Watercolor Painting	3
ART 199	Fine Arts Symposium	1
ART 231	Life Drawing I*	3
ART 232	Life Drawing II*	3
ART 235	Studio Workshop I*	3
ART 236	Studio Workshop II*	3
ART 238	Digital Imaging for Artists II*	3
ART 244	Ceramics Workshop I*	3
ART 291	Independent Study*	1-7
ART 292	Special Topics:	1-3
Computer Desktop Publishing		
CDTP 135	Desktop Photo Manipulation I: Photoshop*	1
CDTP 140	Desktop Publishing I: InDesign*	1
CDTP 145	Desktop Illustration I: Illustrator*	1
CDTP 155	Desktop Photo Manipulation II: Photoshop*	1
CDTP 160	Desktop Publishing II: InDesign*	1
CDTP 165	Desktop Illustration II: Illustrator*	1
CDTP 168	Desktop Publishing III: InDesign*	1
CDTP 175	Desktop Photo Manipulation III: Photoshop*	1
CDTP 185	Desktop Illustration III: Illustrator*	1
CDTP 190	Applications for Visual Design*	3
Film and Media		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
FMS 275	Introduction to Film and Media Production*	3
FMS 292	Special Topics:	1-3
Music		
MUS 121	Introduction to Music Listening	3
MUS 123	Introduction to Music Fundamentals	2
MUS 124	Basic Music for the Elementary Classroom	2
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3
MUS 131	Sight-Singing and Ear Training I	2
MUS 132	Sight-Singing and Ear Training II*	2
MUS 141	Music Theory: Harmony I	3
MUS 142	Music Theory: Harmony II*	3
MUS 143	Music Theory: Harmony III*	3

MUS 145	Jazz/Commercial Music Theory I*	3
MUS 151	Mixed Vocal Ensemble I*	1
MUS 152	Mixed Vocal Ensemble II*	1
MUS 153	Mixed Vocal Ensemble III*	1
MUS 154	Mixed Vocal Ensemble IV*	1
MUS 155	Introduction to the Recording Studio	2
MUS 156	MIDI Music Composition	3
MUS 157	Introduction to Digital Audio*	3
MUS 158	Recording Studio I*	4
MUS 159	Recording Studio II*	4
MUS 161	Chamber Choir I*	1
MUS 162	Chamber Choir II*	1
MUS 163	Chamber Choir III*	1
MUS 164	Chamber Choir IV*	1
MUS 169	Voice Class I	2
MUS 170	Voice Class II*	2
MUS 175	Songwriting*	2
MUS 176	Jazz Band I*	1
MUS 177	Jazz Band II*	1
MUS 178	Jazz Band III*	1
MUS 179	Jazz Band IV*	1
MUS 185	Live Sound Production I	3
MUS 186	Live Sound Production II*	3
MUS 187	Jazz Improvisation I*	2
MUS 188	Jazz Improvisation II*	2
MUS 191	Concert Band I*	1
MUS 192	Concert Band II*	1
MUS 193	Concert Band III*	1
MUS 194	Concert Band IV*	1
MUS 195	Vocal Jazz Ensemble I*	1
MUS 196	Vocal Jazz Ensemble II*	1
MUS 201	Chamber Ensemble I*	1
MUS 202	Chamber Ensemble II*	1
MUS 203	Chamber Ensemble III*	1
MUS 204	Chamber Ensemble IV*	1
MUS 221	Piano Class I	2
MUS 222	Piano Class II*	2
MUS 223	Piano Class III*	2
MUS 226	Applied Guitar I (Class)	1
MUS 227	Applied Guitar II (Class)*	1
MUS 231	Applied Voice I (Private)	1
MUS 232	Applied Voice II (Private)*	1
MUS 233	Applied Voice III (Private)*	1
MUS 234	Applied Voice IV (Private)*	1
MUS 236	Applied Piano I (Private)	1
MUS 237	Applied Piano II (Private)*	1
MUS 238	Applied Piano III (Private)*	1
MUS 239	Applied Piano IV (Private)*	1
MUS 241	Applied Guitar I (Private)	1
MUS 242	Applied Guitar II (Private)*	1
MUS 243	Applied Guitar III (Private)*	1
MUS 244	Applied Guitar IV (Private)*	1

MUS 246	Applied Classical Guitar I (Private)	1
MUS 247	Applied Classical Guitar II (Private)*	1
MUS 248	Applied Classical Guitar III (Private)*	1
MUS 249	Applied Classical Guitar IV (Private)*	1
MUS 251	Applied Brass I (Private)	1
MUS 252	Applied Brass II (Private)*	1
MUS 256	Applied Percussion I (Private)	1
MUS 257	Applied Percussion II(Private)*	1
MUS 258	Applied Percussion III (Private)*	1
MUS 259	Applied Percussion IV (Private)*	1
MUS 261	Applied Woodwind I (Private)	1
MUS 262	Applied Woodwind II (Private)*	1
MUS 263	Applied Woodwind III (Private)*	1
MUS 264	Applied Woodwind IV (Private)*	1
MUS 291	Independent Study*	1-7
MUS 292	Special Topics:	1-3
Photography		
PHOT 100	Photography Basics	3
PHOT 200	Foundations in Photography	3
PHOT 201	Photography I*	4
PHOT 202	Photography II*	4
PHOT 223	Studio Photography*	3
PHOT 224	Experimental Processes*	3
PHOT 291	Independent Study*	1-7
PHOT 292	Special Topics:	1-3
PHOT 293	Photography Seminar*	3
Theater		
THEA 120	Introduction to Theater	3
THEA 121	Fundamentals of Acting	3
THEA 123	Improvisation for the Theater*	2
THEA 130	Acting I*	3
THEA 131	Voice and Speech	3
THEA 133	Technical Practicum I	1
THEA 134	Performance Practicum I	1
THEA 135	Stage Makeup	2
THEA 136	Costume Construction	3
THEA 137	Movement for the Stage	3
THEA 140	Basic Stagecraft	3
THEA 145	Introduction to Theater Design	3
THEA 209	Script Analysis	3
THEA 225	Reader's Theater	3
THEA 230	Acting II*	3
THEA 231	Speech for the Actor*	3
THEA 232	Introduction to Stage Directing and Management*	3
THEA 233	Technical Practicum II*	1
THEA 245	Introduction to Scene Design*	3
THEA 250	Introduction to Costume Design	3
THEA 260	Introduction to Light, Sound and Projections	3
THEA 291	Independent Study*	1-7
THEA 292	Special Topics:*	3

Elective Hours: 25-26

Total Program Hours: 60

Cultural Diversity Courses

Code	Title	Hours
These courses fulfill JCCC's Cultural Diversity requirement for the AA, AFA, and AS degrees.; one course required.		
Anthropology		
ANTH 125	Cultural Anthropology	3
ANTH 130	World Cultures	3
ANTH 134	Native Americans	3
ANTH 135	American Indian Art	3
ANTH 142	World Prehistory	3
ANTH 150	People and Cultures of Mesoamerica	3
ANTH 153	The Anthropology of the Paranormal & Supernatural	3
ANTH 165	Linguistic Anthropology	3
Art History		
ARTH 135	American Indian Art	3
ARTH 180	Art History: Ancient to Medieval	3
ARTH 184	Art History: Twentieth Century	3
ARTH 186	Art History: Introduction to Asian Art	3
ARTH 200	Women, Art, and Society	3
Biology		
BIOL 132	Introduction to Public Health	3
Business		
BUS 235	Introduction to International Business	3
Communications		
COMS 180	Intercultural Communication	3
Criminal Justice		
CJ 223	International Criminal Justice Systems	3
Education and Early Childhood		
EDUC 221	Diversity, Equity and Inclusion for K-12 Educators	3
English (Literature)		
ENGL 215	U.S. Latino and Latina Literature*	3
ENGL 217	Literature by Women*	3
ENGL 232	Children's Literature*	3
ENGL 244	Literature of American Popular Music*	3
Film and Media Studies		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
Foreign Languages		
FL 120	Elementary German I	5
FL 121	Elementary German II*	5
FL 130	Elementary Spanish I	5
FL 131	Elementary Spanish II*	5
FL 135	Basic Spanish for Hospitality Management	3
FL 140	Elementary French I	5
FL 141	Elementary French II*	5
FL 165	Elementary Chinese I	5
FL 166	Elementary Chinese II*	5
FL 170	Elementary Japanese I	5
FL 171	Elementary Japanese II*	5
FL 182	Intermediate Japanese I*	5

FL 183	Intermediate Japanese II*	5
FL 220	Intermediate German I*	3
FL 221	Intermediate German II*	3
FL 230	Intermediate Spanish I*	3
FL 231	Intermediate Spanish II*	3
FL 240	Intermediate French I*	3
FL 241	Intermediate French II*	3
FL 288	Spanish for Heritage and Advanced Speakers of Spanish*	3

Geography

GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3

Global and International Studies

GIST 101	Study Abroad Reflections*	1-3
GIST 250	Introduction to Globalization	3

Health Care

HC 125	International Awareness Field Study	2

History

HIST 120	Local and Kansas History	3
HIST 128	Medieval History	3
HIST 132	History of Africa	3
HIST 135	Eastern Civilization	3
HIST 137	African American History	3
HIST 143	Ancient Greece, the Near East and Egypt	3
HIST 145	History of Ancient Rome	3
HIST 149	History of India	3
HIST 150	Islam: Religion and Civilization	3
HIST 151	World History: Traditional	3
HIST 152	World History: Modern World	3
HIST 160	Modern Russian History	3
HIST 162	Modern Latin America	3
HIST 165	History of China	3
HIST 167	Introduction to History: Japan	3
HIST 180	North American Indian History	3
HIST 195	History of the Middle East	3
HIST 260	Women in U.S. History	3

Humanities

HUM 137	Introduction to Russian Culture	3
HUM 145	World Humanities: Ancient to Medieval	3
HUM 146	World Humanities: Renaissance to Modern	3
HUM 150	Islam: Religion and Civilization	3
HUM 156	Contemporary Approaches to World Mythology	3
HUM 167	Introduction to Japanese Culture	3

Journalism

JOUR 220	International Media	3

Music

MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3

Philosophy

PHIL 142	History of Asian Philosophy	3
PHIL 177	Feminist Theory	3

Photography

PHOT 200	Foundations in Photography	3

Physical Education, Health and Recreation		
HPER 251	Sport and Society	3
Political Science		
POLS 132	Introduction to Comparative Government	3
POLS 135	International Relations	3
POLS 192	Political Theory	3
POLS 200	Model United Nations	3
Psychology		
PSYC 205	Human Sexuality*	3
PSYC 220	Social Psychology*	3
Religion		
REL 120	Exploring World Religions	3
REL 125	Asian Religions	3
REL 126	Religions of the West	3
REL 150	Islam: Religion and Civilization	3
Sociology		
SOC 122	Introduction to Sociology	3
SOC 125	Social Problems	3
SOC 146	Introduction to Social Work and Social Welfare	3
SOC 165	Contemporary Chinese Society	3
SOC 180	Inequality and Diversity in The United States	3
SOC 240	Sociology of Community	3
SOC 270	Men and Masculinities	3
Sustainable Agriculture		
SAG 205	Agroecology in the Americas	3
Women and Gender Studies		
WGS 201	Global Women's Studies	3
WGS 220	The Many Women of Islam	3

*   This course has registration requirements.

±   This course fulfills JCCC's Cultural Diversity requirement for the AA, AFA, and AS degrees.

§   Open electives are non-developmental courses (p. 9) meeting degree requirements. Please consult with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/) for more information.

Associate of Science

The associate of science degree from JCCC:

- is designed as a professional-oriented degree for transfer to another college or university to support progress toward earning a bachelor's degree.

- requires a minimum of 60 college-level credit hours within specified categories with 15 credit hours earned at JCCC and a 2.0 or higher GPA.

- requires a minimum of 34 credit hours of Kansas Systemwide General Education requirements.

- requires a minimum of 26 additional credit hours of open electives, including 6 hours of STEM (Science, Technology, Engineering, and Mathematics (p. 171)) electives.

- requires the completion of a JCCC Cultural Diversity course (p. 177) from a list of approved courses. Some of the courses in this list will also meet Kansas Systemwide General Education requirements.

The associate of science degree is designed as a transfer degree. Students should refer to transfer information (https://www.jccc.edu/student-resources/transfer/), meet with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/), and create a plan when selecting courses.

Kansas Systemwide General Education Requirements

English (6 hrs.)

Code	Title	Hours
ENGL 121	Composition I*	3
ENGL 122	Composition II*	3

Communications (3 hrs.)

Code	Title	Hours
3 hours required from the following courses:		
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	

Math and Statistics (3 hrs.)

Code	Title	Hours
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4

Natural and Physical Sciences (4-5 hrs.)

Code	Title	Hours
Minimum 4 hours of a lab science required from the following courses:		
Natural Science		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5

BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
Physical Science		
ASTR 122	Astronomy	4
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4

Social and Behavioral Sciences (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Anthropology		
ANTH 125	Cultural Anthropology ±	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures ±	3
ANTH 142	World Prehistory ±	3
ANTH 165	Linguistic Anthropology ±	3
Criminal Justice		
CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems ±	3
Economics		
ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3
Geography		
GEOS 145	World Regional Geography ±	3
GEOS 155	Human Geography ±	3
Legal Studies		
LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3
Political Science		

POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government $^{\pm}$	3
POLS 135	International Relations $^{\pm}$	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory $^{\pm}$	3
POLS 200	Model United Nations $^{\pm}$	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3
Psychology		
PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3
Sociology		
SOC 122	Introduction to Sociology $^{\pm}$	3
SOC 125	Social Problems $^{\pm}$	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare $^{\pm}$	3
Women and Gender Studies		
WGS 201	Global Women's Studies $^{\pm}$	3

Arts and Humanities (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Art History		
ARTH 180	Art History: Ancient to Medieval $^{\pm}$	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century $^{\pm}$	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society $^{\pm}$	3
English		
English (Literature)		
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature* $^{\pm}$	3
ENGL 217	Literature by Women* $^{\pm}$	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 232	Children's Literature* $^{\pm}$	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
English (Writing)		
ENGL 123	Technical Writing I*	3
ENGL 140	Writing for Interactive Media*	3
ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3

Communications		
COMS 180	Intercultural Communication	3
Film and Media Studies		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
Foreign Languages		
FL 120	Elementary German I [±]	5
FL 121	Elementary German II* [±]	5
FL 130	Elementary Spanish I [±]	5
FL 131	Elementary Spanish II* [±]	5
FL 140	Elementary French I [±]	5
FL 141	Elementary French II* [±]	5
FL 165	Elementary Chinese I [±]	5
FL 166	Elementary Chinese II* [±]	5
FL 170	Elementary Japanese I [±]	5
FL 171	Elementary Japanese II* [±]	5
FL 182	Intermediate Japanese I* [±]	5
FL 183	Intermediate Japanese II* [±]	5
FL 192	Intermediate Chinese I* [±]	3
FL 193	Intermediate Chinese II* [±]	3
FL 220	Intermediate German I* [±]	3
FL 221	Intermediate German II* [±]	3
FL 230	Intermediate Spanish I* [±]	3
FL 231	Intermediate Spanish II* [±]	3
FL 240	Intermediate French I* [±]	3
FL 241	Intermediate French II* [±]	3
History		
HIST 120	Local and Kansas History [±]	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History [±]	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa [±]	3
HIST 135	Eastern Civilization [±]	3
HIST 137	African American History [±]	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt [±]	3
HIST 145	History of Ancient Rome [±]	3
HIST 149	History of India [±]	3
HIST 151	World History: Traditional [±]	3
HIST 152	World History: Modern World [±]	3
HIST 160	Modern Russian History [±]	3
HIST 162	Modern Latin America [±]	3
HIST 165	History of China [±]	3
HIST 167	Introduction to History: Japan [±]	3
HIST 180	North American Indian History [±]	3
HIST 195	History of the Middle East [±]	3
HIST 210	Environmental History of North America	3
HIST 250	American West	3
HIST 260	Women in U.S. History [±]	3

Humanities

HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval ±	3
HUM 146	World Humanities: Renaissance to Modern ±	3
HUM 155	Classical Mythology	3
HUM 156	Contemporary Approaches to World Mythology ±	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture ±	3

Journalism

JOUR 120	Mass Media and Society	3

Music

MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music ±	3
MUS 128	History of Rock and Roll Music ±	3

Philosophy

PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3
PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3

Photography

PHOT 200	Foundations in Photography	3

Religion

REL 120	Exploring World Religions ±	3
REL 125	Asian Religions ±	3
REL 126	Religions of the West ±	3

Theater

THEA 120	Introduction to Theater	3

Cavalier Credits (6 hrs.)

Code	Title	Hours
Communications		
COMS 120	Interpersonal Communication	3
COMS 121	Public Speaking	3
COMS 125	Personal Communication	3
COMS 180	Intercultural Communication ±	3
Math and Statistics		
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4

MATH 285	Statistics for Business*	4
Natural and Physical Sciences		
Natural Science		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
EVRN 124	Oceanus: Essentials of Oceanography (non-lab science)	3
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
EVRN 134	Principles of Sustainability (non-lab science)	3
Physical Science		
ASTR 120	Fundamentals of Astronomy (non-lab science)	3
ASTR 122	Astronomy	4
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
ENGR 121	Engineering Orientation	2
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4
Social and Behavioral Sciences		
Anthropology		
ANTH 125	Cultural Anthropology ±	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures ±	3
ANTH 142	World Prehistory ±	3
ANTH 165	Linguistic Anthropology ±	3
Criminal Justice		
CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems ±	3
Economics		
ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3

Geography

GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3

Legal Studies

LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3

Political Science

POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government ±	3
POLS 135	International Relations ±	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory ±	3
POLS 200	Model United Nations ±	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3

Psychology

PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3

Sociology

SOC 122	Introduction to Sociology ±	3
SOC 125	Social Problems ±	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare ±	3

Women and Gender Studies

WGS 201	Global Women's Studies ±	3

Arts and Humanities

Art History

ARTH 180	Art History: Ancient to Medieval ±	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century ±	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society ±	3

English

English (Literature)

ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature* ±	3
ENGL 217	Literature by Women* ±	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 232	Children's Literature* ±	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3

English (Writing)

ENGL 123	Technical Writing I*	3
ENGL 140	Writing for Interactive Media*	3
ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3
Film and Media Studies		
FMS 100	Intro to Film ±	3
FMS 200	Intro to Filmmaking and Media Aesthetics ±	3
Foreign Languages		
FL 120	Elementary German I ±	5
FL 121	Elementary German II* ±	5
FL 130	Elementary Spanish I ±	5
FL 131	Elementary Spanish II* ±	5
FL 140	Elementary French I ±	5
FL 141	Elementary French II* ±	5
FL 165	Elementary Chinese I ±	5
FL 166	Elementary Chinese II* ±	5
FL 170	Elementary Japanese I ±	5
FL 171	Elementary Japanese II* ±	5
FL 182	Intermediate Japanese I* ±	5
FL 183	Intermediate Japanese II* ±	5
FL 192	Intermediate Chinese I* ±	3
FL 193	Intermediate Chinese II* ±	3
FL 220	Intermediate German I* ±	3
FL 221	Intermediate German II* ±	3
FL 230	Intermediate Spanish I* ±	3
FL 231	Intermediate Spanish II* ±	3
FL 240	Intermediate French I* ±	3
FL 241	Intermediate French II* ±	3
History		
HIST 120	Local and Kansas History ±	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History ±	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa ±	3
HIST 135	Eastern Civilization ±	3
HIST 137	African American History ±	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt ±	3
HIST 145	History of Ancient Rome ±	3
HIST 149	History of India ±	3
HIST 151	World History: Traditional ±	3
HIST 152	World History: Modern World ±	3
HIST 160	Modern Russian History ±	3
HIST 162	Modern Latin America ±	3
HIST 165	History of China ±	3
HIST 167	Introduction to History: Japan ±	3
HIST 180	North American Indian History ±	3
HIST 195	History of the Middle East ±	3
HIST 210	Environmental History of North America	3

HIST 250	American West	3
HIST 260	Women in U.S. History $^{\pm}$	3
Humanities		
HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval $^{\pm}$	3
HUM 146	World Humanities: Renaissance to Modern $^{\pm}$	3
HUM 155	Classical Mythology	3
HUM 156	Contemporary Approaches to World Mythology $^{\pm}$	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture $^{\pm}$	3
Journalism		
JOUR 120	Mass Media and Society	3
Music		
MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music $^{\pm}$	3
MUS 128	History of Rock and Roll Music $^{\pm}$	3
Philosophy		
PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3
PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3
Photography		
PHOT 200	Foundations in Photography	3
Religion		
REL 120	Exploring World Religions $^{\pm}$	3
REL 125	Asian Religions $^{\pm}$	3
REL 126	Religions of the West $^{\pm}$	3
Theater		
THEA 120	Introduction to Theater	3

General Education Hours: 34-35

STEM - Science, Technology, Engineering, and Mathematics Courses (6 hrs.)

Code	Title	Hours
Requires the completion of 6 additional credit hours to be selected from the following courses:		
Astronomy		
ASTR 120	Fundamentals of Astronomy	3
ASTR 122	Astronomy	4
Automation Engineer Technology		
AET 110	Industrial Maintenance	3
AET 120	Industrial Fluid Power	3
AET 122	Industrial Code	3
AET 140	Actuator and Sensor Systems*	3
AET 160	Programmable Logic Controllers I*	3
AET 185	LAN Cabling and Installation	3
AET 240	Industrial Robotics*	3
AET 255	Motor Controls and Variable Frequency Drives*	3
AET 260	Programmable Logic Controllers II*	3
Biology		

BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 132	Introduction to Public Health	3
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 145	Human Anatomy and Physiology Dissection*	1
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 205	General Genetics*	4
BIOL 225	Human Physiology*	4
BIOL 227	Human Pathophysiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
BIOL 235	The Science of Human Nutrition*	3
BIOL 240	General Pharmacology*	3
Chemistry		
CHEM 100	Preparation for Chemistry	3
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
CHEM 220	Organic Chemistry I*	5
CHEM 221	Organic Chemistry II*	5
CHEM 250	Biochemistry*	4
Computer Information Systems		
CIS 124	Introduction to Computer Concepts and Applications	3
CIS 142	Beginning Programming using Python	4
CIS 201	Introduction to Information Systems*	3
CIS 204	UNIX Scripting and Utilities*	3
CIS 208	Mobile Application Development*	4
CIS 240	Advanced Topics in Java*	4
CIS 242	Introduction to System Design and Analysis*	3
CIS 260	Database Management*	4
CIS 264	Application Development and Programming*	4
CIS 270	Information Systems Internship*	3
CIS 275	Web-Enabled Database Programming*	4
CIS 292	Special Topics:*	1-4
Computer Science		
CS 134	Programming Fundamentals	4
CS 200	Concepts of Programming Algorithms Using C++*	4
CS 201	Concepts of Programming Algorithms using C#*	4
CS 202	Concepts of Programming Algorithms using Python*	4
CS 205	Concepts of Programming Algorithms using Java*	4
CS 210	Discrete Structures I*	3
CS 211	Discrete Structures II*	3
CS 235	Object-Oriented Programming Using C++*	4
CS 236	Object-Oriented Programming Using C#*	4

CS 250	Basic Data Structures using C++*	4
CS 252	Basic Data Structures Using Python*	4
CS 255	Basic Data Structures Using Java*	4
Computer Support Specialist		
CSS 105	Introduction to Personal Computers: Windows	1
CSS 106	Introduction to Personal Computers: Macintosh	1
CSS 108	Word Processing I: MS Word*	1
CSS 109	Google Apps*	1
CSS 110	Spreadsheets I: MS Excel*	1
CSS 111	Spreadsheets II: MS Excel*	1
CSS 113	Spreadsheets I, II & III: MS Excel*	3
CSS 114	Databases I: MS Access*	1
CSS 115	Databases II: MS Access*	2
CSS 118	Groupware: Outlook*	1
CSS 120	Computer User Support Skills*	3
CSS 121	Introduction to Project Management*	1
CSS 123	E-Presentation: MS PowerPoint*	1
CSS 125	Word Processing II: MS Word*	1
CSS 128	PC Applications: MS Office	3
CSS 138	Operating Systems: Windows*	1
CSS 140	Digital Devices and Online Technologies*	3
CSS 228	PC Applications II: MS Office*	3
CSS 290	Computer Support Specialist Internship*	2
CSS 292	Special Topics:*	1-3
Construction Management		
CMGT 100	Industrial Safety/OSHA-30	3
CMGT 105	Construction Methods	3
CMGT 123	Building Codes*	3
CMGT 125	Construction Specifications*	2
CMGT 129	Construction Management	3
CMGT 140	Construction Materials*	3
CMGT 150	Construction Safety/OSHA-30	3
CMGT 160	Green Building Fundamentals*	3
CMGT 205	Advanced Construction Methods*	3
CMGT 225	Construction Documents*	2
CMGT 227	Construction Cost Estimating*	3
CMGT 229	Advanced Construction Management*	3
CMGT 271	Construction Management Internship*	3
Data Science		
DS 210	Introduction to Data Science	3
DS 220	Data Visualization	3
DS 230	SQL for Data Analysis	3
DS 240	Introduction to Statistical Programming	3
DS 260	Data Mining*	3
DS 270	Introduction to Machine Learning*	3
DS 280	Big Data Architecture	3
Electronics		
ELEC 120	Introduction to Electronics	3
ELEC 125	Digital Electronics I	4
ELEC 134	DC Circuits*	4
ELEC 186	CompTIA A+ Core 1	3
ELEC 212	Fundamentals of Light and Lasers*	3

ELEC 227	Digital Electronics II*	4
ELEC 234	AC Circuits*	4
ELEC 235	Digital Systems and Applications*	4
ELEC 236	Semiconductor Devices*	4
ELEC 240	Electronic Communication Systems*	4
ELEC 251	Laser Systems and Applications*	3
ELEC 252	Specialized Lasers and System Integration*	3
ELEC 271	Electronics Internship*	1-3
Engineering		
ENGR 121	Engineering Orientation	2
ENGR 131	Engineering Graphics I:AutoCAD*	4
ENGR 251	Statics*	3
ENGR 254	Dynamics*	3
Environmental Science		
EVRN 115	Natural History of Kansas	3
EVRN 124	Oceanus: Essentials of Oceanography	3
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
EVRN 134	Principles of Sustainability	3
EVRN 155	Bioethics*	3
EVRN 255	Freshwater Ecology	4
Game Development		
GAME 102	The Business of Games	3
GAME 104	Introduction to Game Development	1
GAME 105	Beginning Game Creation	3
GAME 120	Game Design I*	4
GAME 121	Game Programming I*	4
GAME 131	User-Centered Design*	4
GAME 132	Game Level Editing*	4
GAME 134	Game World Creation*	4
GAME 136	Game Prototyping*	4
GAME 180	Artificial Intelligence for Games*	3
GAME 220	Game Design II*	4
GAME 221	Game Programming II*	4
GAME 235	Game Quality Assurance*	2
GAME 238	Serious Game Design*	3
GAME 242	Agile Game Development*	3
GAME 250	Game Capstone*	4
GAME 255	Mobile Game Programming*	4
GAME 292	Special Topics:*	3
Geoscience		
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3
Health Care Information Systems		
HCIS 225	Healthcare Data Analytics	2
HCIS 235	Care Coordination and Interoperable Health IT Systems	2
HCIS 245	Population Health	2
HCIS 255	Technology Concepts and Cybersecurity in Healthcare	2
HCIS 262	Customer Service in the Health Environment	2

HCIS 263	Working with Health Information Technology (HIT) Systems	2
HCIS 264	Configuration and Implementation of Electronic Health Records	2
HCIS 265	Installation and Maintenance of Health IT Systems	2
HCIS 267	EHR Design, Functionality and Usability	3
HCIS 270	Health Information Systems Internship*	2
HCIS 271	The Culture of Healthcare	2
HCIS 272	Terminology in Health Care Settings	2
HCIS 273	Quality Improvement in Healthcare	2
HCIS 274	Healthcare Workflow Analysis and Redesign	2
HCIS 277	Training and Instructional Design	2
Information Technology		
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3
IT 150	Switching, Routing, and Wireless Essentials*	3
IT 151	VMware vSphere Essentials*	3
IT 152	Google Cloud Fundamentals*	3
IT 153	AWS Cloud Foundations*	3
IT 155	Microsoft Administration Fundamentals*	3
IT 175	Cybersecurity Fundamentals*	3
IT 202	IT Scripting*	3
IT 204	Enterprise Networking, Security and Automation*	3
IT 206	Network Security Fundamentals*	3
IT 207	AWS Cloud Operations*	3
IT 223	Azure Administration*	3
IT 224	Microsoft 365 Administration*	3
IT 230	Linux Fundamentals	3
IT 231	Linux Administration*	3
IT 238	Digital Forensics*	3
IT 239	Ethical Hacking*	3
IT 257	Cybersecurity Operations*	3
IT 271	Information Technology Internship I*	3
IT 272	Information Technology Internship II*	3
IT 292	Special Topics:*	1-3
Mathematics		
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 191	Math and Physics for Games I*	4
MATH 210	Mathematics for Elementary Teachers I*	3
MATH 212	Math for Elementary Teachers II*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 246	Elementary Linear Algebra*	3
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4
MATH 292	Special Topics:*	1-3

Physical Science		
PSCI 120	Physical Science	4
Physics		
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 191	Math and Physics for Games I*	4
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
Science		
SCI 292	Special Topics:*	1-5
Sustainable Agriculture		
SAG 142	Small Farm Business Planning and Management	3
SAG 165	Farm Producer Food Safety	3
SAG 167	Local Food Production	3
SAG 170	Value-Added Production	3
SAG 205	Agroecology in the Americas	3
SAG 225	On-Farm Plant Breeding	3
SAG 245	Principles of Sustainable Market Farming	3
SAG 250	Sustainable Food Systems*	3
SAG 255	Organic and Integrated Pest Management	3
SAG 260	Sustainable Soil Management	3
SAG 272	Sustainable Agriculture Fall Practicum	2
SAG 274	Sustainable Agriculture Spring Practicum	2
SAG 276	Sustainable Agriculture Summer Practicum	2
SAG 285	Sustainable Agriculture and Food Systems Internship*	2
Web Development and Digital Media		
WEB 110	HTML and CSS	3
WEB 112	Professional Skills for the Digital Developer	3
WEB 114	Web Scripting: JavaScript I*	2
WEB 116	Digital Media Concepts	2
WEB 118	Digital Workflow	3
WEB 120	Web Analytics*	3
WEB 121	Digital Media Assets*	4
WEB 122	CSS Techniques & Projects*	3
WEB 124	Web Scripting: JavaScript II*	2
WEB 125	Digital Video Tools	1
WEB 126	Technical Interface Skills*	3
WEB 128	Server Scripting: PHP with MySQL*	2
WEB 172	WordPress I*	1
WEB 225	Advanced Digital Video Tools*	1
WEB 231	User Experience*	4
WEB 233	Visual Storytelling	3
WEB 234	Web Apps I*	3
WEB 236	Content Management Systems Development*	3
WEB 237	Emerging Technologies*	3
WEB 238	Interactive Scripting: JQuery*	4
WEB 239	Introduction to Application Programming Interfaces (APIs)*	2
WEB 240	HTML and CSS II*	3
WEB 243	Search Engine Optimization*	1
WEB 245	Motion Graphics Tools*	1
WEB 290	Web Development and Digital Media Capstone*	3

| WEB 292 | Special Topics:* | 1-3 |
| WEB 294 | Web Development and Digital Media Internship* | 1 |

Open Elective Hours

Code	Title	Hours
Open electives are non-developmental courses meeting degree requirements. Please consult with a JCCC counselor for more information. (p. 9)		19-20

STEM and Elective Hours: 25-26

Total Program Hours: 60

Cultural Diversity Courses

Code	Title	Hours
These courses fulfill JCCC's Cultural Diversity requirement for the AA, AFA, and AS degrees.; one course required.		
Anthropology		
ANTH 125	Cultural Anthropology	3
ANTH 130	World Cultures	3
ANTH 134	Native Americans	3
ANTH 135	American Indian Art	3
ANTH 142	World Prehistory	3
ANTH 150	People and Cultures of Mesoamerica	3
ANTH 153	The Anthropology of the Paranormal & Supernatural	3
ANTH 165	Linguistic Anthropology	3
Art History		
ARTH 135	American Indian Art	3
ARTH 180	Art History: Ancient to Medieval	3
ARTH 184	Art History: Twentieth Century	3
ARTH 186	Art History: Introduction to Asian Art	3
ARTH 200	Women, Art, and Society	3
Biology		
BIOL 132	Introduction to Public Health	3
Business		
BUS 235	Introduction to International Business	3
Communications		
COMS 180	Intercultural Communication	3
Criminal Justice		
CJ 223	International Criminal Justice Systems	3
Education and Early Childhood		
EDUC 221	Diversity, Equity and Inclusion for K-12 Educators	3
English (Literature)		
ENGL 215	U.S. Latino and Latina Literature*	3
ENGL 217	Literature by Women*	3
ENGL 232	Children's Literature*	3
ENGL 244	Literature of American Popular Music*	3
Film and Media Studies		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
Foreign Languages		
FL 120	Elementary German I	5
FL 121	Elementary German II*	5
FL 130	Elementary Spanish I	5
FL 131	Elementary Spanish II*	5
FL 135	Basic Spanish for Hospitality Management	3

FL 140	Elementary French I	5
FL 141	Elementary French II*	5
FL 165	Elementary Chinese I	5
FL 166	Elementary Chinese II*	5
FL 170	Elementary Japanese I	5
FL 171	Elementary Japanese II*	5
FL 182	Intermediate Japanese I*	5
FL 183	Intermediate Japanese II*	5
FL 220	Intermediate German I*	3
FL 221	Intermediate German II*	3
FL 230	Intermediate Spanish I*	3
FL 231	Intermediate Spanish II*	3
FL 240	Intermediate French I*	3
FL 241	Intermediate French II*	3
FL 288	Spanish for Heritage and Advanced Speakers of Spanish*	3
Geography		
GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3
Global and International Studies		
GIST 101	Study Abroad Reflections*	1-3
GIST 250	Introduction to Globalization	3
Health Care		
HC 125	International Awareness Field Study	2
History		
HIST 120	Local and Kansas History	3
HIST 128	Medieval History	3
HIST 132	History of Africa	3
HIST 135	Eastern Civilization	3
HIST 137	African American History	3
HIST 143	Ancient Greece, the Near East and Egypt	3
HIST 145	History of Ancient Rome	3
HIST 149	History of India	3
HIST 150	Islam: Religion and Civilization	3
HIST 151	World History: Traditional	3
HIST 152	World History: Modern World	3
HIST 160	Modern Russian History	3
HIST 162	Modern Latin America	3
HIST 165	History of China	3
HIST 167	Introduction to History: Japan	3
HIST 180	North American Indian History	3
HIST 195	History of the Middle East	3
HIST 260	Women in U.S. History	3
Humanities		
HUM 137	Introduction to Russian Culture	3
HUM 145	World Humanities: Ancient to Medieval	3
HUM 146	World Humanities: Renaissance to Modern	3
HUM 150	Islam: Religion and Civilization	3
HUM 156	Contemporary Approaches to World Mythology	3
HUM 167	Introduction to Japanese Culture	3
Journalism		
JOUR 220	International Media	3
Music		

MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3
Philosophy		
PHIL 142	History of Asian Philosophy	3
PHIL 177	Feminist Theory	3
Photography		
PHOT 200	Foundations in Photography	3
Physical Education, Health and Recreation		
HPER 251	Sport and Society	3
Political Science		
POLS 132	Introduction to Comparative Government	3
POLS 135	International Relations	3
POLS 192	Political Theory	3
POLS 200	Model United Nations	3
Psychology		
PSYC 205	Human Sexuality*	3
PSYC 220	Social Psychology*	3
Religion		
REL 120	Exploring World Religions	3
REL 125	Asian Religions	3
REL 126	Religions of the West	3
REL 150	Islam: Religion and Civilization	3
Sociology		
SOC 122	Introduction to Sociology	3
SOC 125	Social Problems	3
SOC 146	Introduction to Social Work and Social Welfare	3
SOC 165	Contemporary Chinese Society	3
SOC 180	Inequality and Diversity in The United States	3
SOC 240	Sociology of Community	3
SOC 270	Men and Masculinities	3
Sustainable Agriculture		
SAG 205	Agroecology in the Americas	3
Women and Gender Studies		
WGS 201	Global Women's Studies	3
WGS 220	The Many Women of Islam	3

*   This course has registration requirements.

±   This course fulfills JCCC's Cultural Diversity requirement for the AA, AFA, and AS degrees.

Associate of Applied Science

The associate of applied science degree from JCCC:

- is designed with an emphasis in a specific career program.

- requires completion of a minimum of 60 college-level credit hours, not to exceed 68 credit hours, within specified course distribution subgroups, including areas of emphasis, with a 2.0 or higher GPA.

- the 68-credit-hour maximum shall not apply to any programs having external accreditation or industry requirements that exceed the 68-credit-hour limit.

- requires a minimum of 15 credit hours of JCCC General Education requirements.

Please refer to your specific degree for a list of all requirements. Students should meet with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/) and discuss degree options when selecting a program of study.

JCCC General Education Requirements

English and Communications, Associate of Applied Science (3 hrs.)

Code	Title	Hours
ENGL 121	Composition I*	3
If your specific degree program requires a communications elective, select one from the following:		
COMS 121	Public Speaking	3
or COMS 120	Interpersonal Communication	
or COMS 125	Personal Communication	
or ENGL 122	Composition II*	
or ENGL 123	Technical Writing I*	
or ENGL 140	Writing for Interactive Media*	

Humanities, Associate of Applied Science (3 hrs.)

Code	Title	Hours
Art History		
ARTH 180	Art History: Ancient to Medieval	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society	3
Communications		
COMS 180	Intercultural Communication	3
English		
English (Literature)		
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature*	3
ENGL 217	Literature by Women*	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 232	Children's Literature*	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
English (Writing)		

ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3
Film and Media Studies		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
Foreign Languages		
FL 120	Elementary German I	5
FL 121	Elementary German II*	5
FL 130	Elementary Spanish I	5
FL 131	Elementary Spanish II*	5
FL 140	Elementary French I	5
FL 141	Elementary French II*	5
FL 165	Elementary Chinese I	5
FL 166	Elementary Chinese II*	5
FL 170	Elementary Japanese I	5
FL 171	Elementary Japanese II*	5
FL 182	Intermediate Japanese I*	5
FL 183	Intermediate Japanese II*	5
FL 192	Intermediate Chinese I*	3
FL 193	Intermediate Chinese II*	3
FL 220	Intermediate German I*	3
FL 221	Intermediate German II*	3
FL 230	Intermediate Spanish I*	3
FL 231	Intermediate Spanish II*	3
FL 240	Intermediate French I*	3
FL 241	Intermediate French II*	3
History		
HIST 120	Local and Kansas History	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa	3
HIST 135	Eastern Civilization	3
HIST 137	African American History	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt	3
HIST 145	History of Ancient Rome	3
HIST 149	History of India	3
HIST 151	World History: Traditional	3
HIST 152	World History: Modern World	3
HIST 160	Modern Russian History	3
HIST 162	Modern Latin America	3
HIST 165	History of China	3
HIST 167	Introduction to History: Japan	3
HIST 180	North American Indian History	3
HIST 195	History of the Middle East	3
HIST 210	Environmental History of North America	3
HIST 250	American West	3
HIST 260	Women in U.S. History	3

Humanities

HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval	3
HUM 146	World Humanities: Renaissance to Modern	3
HUM 155	Classical Mythology	3
HUM 156	Contemporary Approaches to World Mythology	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture	3

Journalism

JOUR 120	Mass Media and Society	3

Music

MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3

Religion

REL 120	Exploring World Religions	3
REL 125	Asian Religions	3
REL 126	Religions of the West	3

Philosophy

PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3
PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3

Photography

PHOT 200	Foundations in Photography	3

Theater

THEA 120	Introduction to Theater	3

Social and Behavioral Sciences, Associate of Applied Science (3 hrs.)

Code	Title	Hours
Anthropology		
ANTH 125	Cultural Anthropology	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures	3
ANTH 142	World Prehistory	3
ANTH 165	Linguistic Anthropology	3
Criminal Justice		
CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems	3
Economics		
ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3
Legal Studies		
LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3
Political Science		

POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government	3
POLS 135	International Relations	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory	3
POLS 200	Model United Nations	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3
Psychology		
PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3
Sociology		
SOC 122	Introduction to Sociology	3
SOC 125	Social Problems	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare	3
Gender and Ethnic Studies		
WGS 201	Global Women's Studies	3

Mathematics and Sciences, Associate of Applied Science (3 hrs.)

Code	Title	Hours
Mathematics		
MATH 116	Intermediate Algebra*	3
MATH 118	Geometry*	3
MATH 120	Business Mathematics*	3
MATH 130	Technical Mathematics I*	3
MATH 131	Technical Mathematics II*	3
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3
MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4
Life Science		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5

BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
EVRN 124	Oceanus: Essentials of Oceanography	3
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
EVRN 134	Principles of Sustainability	3
Physical Science		
ASTR 120	Fundamentals of Astronomy	3
ASTR 122	Astronomy	4
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
ENGR 121	Engineering Orientation	2
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4

Cavalier Credits (3 hrs.)

Code	Title	Hours
Requires the completion of 3 additional credit hours to be selected from one of the above general education categories.		

General Education Hours: 15

Program Elective Hours

Code	Title	Hours
See the program page for specific course requirements.		

Elective Hours: 45-53

Total Program Hours: 60 -68

*   This course has registration requirements.

Associate of General Studies

The associate of general studies degree from JCCC:

- is designed for students who wish to receive a degree for completion of a more general program of study.

- requires completion of 60 college-level credit hours within specified course categories with a 2.0 or higher GPA.

- requires a minimum of 30 credit hours of JCCC General Education requirements.

- does not require an academic major or an emphasis in a specific career program.

- requires a minimum of 30 additional credit hours of open electives.

Students should meet with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/) and discuss degree options when selecting a program of study.

JCCC General Education Requirements

The Arts, Associate of General Studies (3 hrs.)

Code	Title	Hours
ARTH 180	Art History: Ancient to Medieval	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century	3
ARTH 188	History of Photography	3
FL 182	Intermediate Japanese I*	5
FL 183	Intermediate Japanese II*	5
FL 192	Intermediate Chinese I*	3
FL 193	Intermediate Chinese II*	3
FL 220	Intermediate German I*	3
FL 221	Intermediate German II*	3
FL 230	Intermediate Spanish I*	3
FL 231	Intermediate Spanish II*	3
FL 240	Intermediate French I*	3
FL 241	Intermediate French II*	3
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
HUM 122	Introduction to Humanities	3
HUM 145	World Humanities: Ancient to Medieval	3
HUM 146	World Humanities: Renaissance to Modern	3
HUM 155	Classical Mythology	3
MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3
PHOT 200	Foundations in Photography	3
THEA 120	Introduction to Theater	3

English and Communications, Associate of General Studies (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
English (Writing)		
ENGL 121	Composition I*	3
Communications		
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	

or COMS 125	Personal Communication	
or COMS 180	Intercultural Communication	

Culture and Ethics, Associate of General Studies (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Historical Perspective		
ENGL 130	Introduction to Literature*	3
ENGL 230	Introduction to Fiction*	3
ENGL 235	Drama as Literature*	3
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
HIST 120	Local and Kansas History	3
HIST 125	Western Civilization: Ancient World to the Renaissance	3
HIST 126	Western Civilization: Scientific Revolution to the Modern Age	3
HIST 128	Medieval History	3
HIST 129	Early Modern Europe 1500-1789	3
HIST 130	European History Since 1789	3
HIST 132	History of Africa	3
HIST 135	Eastern Civilization	3
HIST 137	African American History	3
HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 143	Ancient Greece, the Near East and Egypt	3
HIST 145	History of Ancient Rome	3
HIST 149	History of India	3
HIST 151	World History: Traditional	3
HIST 152	World History: Modern World	3
HIST 160	Modern Russian History	3
HIST 162	Modern Latin America	3
HIST 165	History of China	3
HIST 167	Introduction to History: Japan	3
HIST 180	North American Indian History	3
HIST 195	History of the Middle East	3
HIST 210	Environmental History of North America	3
HIST 250	American West	3
PHIL 154	History of Ancient Philosophy	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
Cultural Perspective		
ANTH 125	Cultural Anthropology	3
ANTH 130	World Cultures	3
CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3
CJ 223	International Criminal Justice Systems	3
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 222	Advanced Composition: The Art of the Essay*	3
ENGL 223	Introduction to Creative Writing*	3
ENGL 232	Children's Literature*	3
ENGL 235	Drama as Literature*	3

ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
FL 182	Intermediate Japanese I*	5
FL 192	Intermediate Chinese I*	3
FL 193	Intermediate Chinese II*	3
FL 220	Intermediate German I*	3
FL 221	Intermediate German II*	3
FL 230	Intermediate Spanish I*	3
FL 231	Intermediate Spanish II*	3
FL 240	Intermediate French I*	3
FL 241	Intermediate French II*	3
GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3
HUM 156	Contemporary Approaches to World Mythology	3
HUM 165	Introduction to Chinese Culture	3
HUM 167	Introduction to Japanese Culture	3
JOUR 120	Mass Media and Society	3
LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3
PHIL 121	Introduction to Philosophy	3
PHIL 128	Environmental Ethics	3
PHIL 130	Food Ethics	3
PHIL 143	Ethics	3
PHIL 154	History of Ancient Philosophy	3
PHIL 176	Philosophy of Religion	3
POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 135	International Relations	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory	3
POLS 200	Model United Nations	3
POLS 220	Introduction to Public Policy	3
REL 120	Exploring World Religions	3
REL 125	Asian Religions	3
REL 126	Religions of the West	3
SOC 122	Introduction to Sociology	3
SOC 131	Sociology of Families	3

Mathematics, Associate of General Studies (3 hrs.)

Code	Title	Hours
MATH 120	Business Mathematics*	3
MATH 130	Technical Mathematics I*	3
MATH 131	Technical Mathematics II*	3
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 173	Precalculus*	5
MATH 175	Discrete Mathematics and its Applications*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 232	Business and Applied Calculus II*	3

MATH 241	Calculus I*	5
MATH 242	Calculus II*	5
MATH 243	Calculus III*	5
MATH 254	Differential Equations*	4
MATH 285	Statistics for Business*	4
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5

Modes of Inquiry, Associate of General Studies (6 hrs.)

Code	Title	Hours
6 hours required from two subject areas:		
Scientific		
ANTH 126	Physical Anthropology	3
ASTR 120	Fundamentals of Astronomy	3
ASTR 122	Astronomy	4
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124	General Chemistry I Lecture*	4
CHEM 125	General Chemistry I Lab*	1
CHEM 131	General Chemistry II Lecture*	4
CHEM 132	General Chemistry II Lab*	1
CHEM 140	Principles of Organic & Biological Chemistry*	5
ENGR 121	Engineering Orientation	2
EVRN 124	Oceanus: Essentials of Oceanography	3
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
EVRN 134	Principles of Sustainability	3
GEOS 130	General Geology	5
GEOS 140	Physical Geography	3
GEOS 141	Physical Geography Lab*	2
PHIL 124	Logic and Critical Thinking	3
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
PSCI 120	Physical Science	4
PSYC 130	Introduction to Psychology	3
Social		
ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3

GEOS 145	World Regional Geography	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government	3
POLS 245	Introduction to Public Administration	3
PSYC 121	Applied Psychology	3
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3
SOC 122	Introduction to Sociology	3
SOC 125	Social Problems	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare	3

Computer Skills, Associate of General Studies (3 hrs.)

Code	Title	Hours
CIS 124	Introduction to Computer Concepts and Applications	3
or MATH 181	Statistics*	
Or a minimum of 3 credit hours from the following courses:		
CDTP 135	Desktop Photo Manipulation I: Photoshop*	
CDTP 140	Desktop Publishing I: InDesign*	
CDTP 145	Desktop Illustration I: Illustrator*	
CDTP 155	Desktop Photo Manipulation II: Photoshop*	
CDTP 160	Desktop Publishing II: InDesign*	
CDTP 165	Desktop Illustration II: Illustrator*	
CDTP 168	Desktop Publishing III: InDesign*	
CDTP 175	Desktop Photo Manipulation III: Photoshop*	
CDTP 185	Desktop Illustration III: Illustrator*	
CDTP 190	Applications for Visual Design*	
CDTP 291	Independent Study*	
CSS 105	Introduction to Personal Computers: Windows	
CSS 106	Introduction to Personal Computers: Macintosh	
CSS 108	Word Processing I: MS Word*	
CSS 109	Google Apps*	
CSS 110	Spreadsheets I: MS Excel*	
CSS 111	Spreadsheets II: MS Excel*	
CSS 113	Spreadsheets I, II & III: MS Excel*	
CSS 114	Databases I: MS Access*	
CSS 115	Databases II: MS Access*	
CSS 118	Groupware: Outlook*	
CSS 120	Computer User Support Skills*	
CSS 121	Introduction to Project Management*	
CSS 123	E-Presentation: MS PowerPoint*	
CSS 125	Word Processing II: MS Word*	
CSS 128	PC Applications: MS Office	
CSS 138	Operating Systems: Windows*	
CSS 140	Digital Devices and Online Technologies*	
CSS 228	PC Applications II: MS Office*	
CSS 290	Computer Support Specialist Internship*	
CSS 291	Independent Study*	
CSS 292	Special Topics:*	
LIBR 125	Introduction to Library Research	
WEB 110	HTML and CSS	

WEB 112	Professional Skills for the Digital Developer
WEB 114	Web Scripting: JavaScript I*
WEB 116	Digital Media Concepts
WEB 118	Digital Workflow
WEB 120	Web Analytics*
WEB 121	Digital Media Assets*
WEB 122	CSS Techniques & Projects*
WEB 124	Web Scripting: JavaScript II*
WEB 125	Digital Video Tools
WEB 126	Technical Interface Skills*
WEB 128	Server Scripting: PHP with MySQL*
WEB 172	WordPress I*
WEB 225	Advanced Digital Video Tools*
WEB 231	User Experience*
WEB 233	Visual Storytelling
WEB 234	Web Apps I*
WEB 236	Content Management Systems Development*
WEB 237	Emerging Technologies*
WEB 238	Interactive Scripting: JQuery*
WEB 239	Introduction to Application Programming Interfaces (APIs)*
WEB 240	HTML and CSS II*
WEB 243	Search Engine Optimization*
WEB 245	Motion Graphics Tools*
WEB 290	Web Development and Digital Media Capstone*
WEB 292	Special Topics:*
WEB 294	Web Development and Digital Media Internship*

Global Issues and Diversity, Associate of General Studies (3 hrs.)

Code	Title	Hours
ANTH 125	Cultural Anthropology	3
ANTH 130	World Cultures	3
ANTH 134	Native Americans	3
ARTH 186	Art History: Introduction to Asian Art	3
ARTH 200	Women, Art, and Society	3
BUS 235	Introduction to International Business	3
CJ 127	Criminology	3
COMS 180	Intercultural Communication	3
ENGL 217	Literature by Women*	3
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
FL 120	Elementary German I	5
FL 121	Elementary German II*	5
FL 130	Elementary Spanish I	5
FL 131	Elementary Spanish II*	5
FL 140	Elementary French I	5
FL 141	Elementary French II*	5
FL 165	Elementary Chinese I	5
FL 166	Elementary Chinese II*	5
FL 170	Elementary Japanese I	5
FL 171	Elementary Japanese II*	5
FL 182	Intermediate Japanese I*	5
FL 183	Intermediate Japanese II*	5

FL 223	Conversational German*	2
FL 234	Conversational Spanish*	2
FL 243	Conversational French*	2
GIST 250	Introduction to Globalization	3
HC 125	International Awareness Field Study	2
HIST 128	Medieval History	3
HIST 135	Eastern Civilization	3
HIST 137	African American History	3
HIST 143	Ancient Greece, the Near East and Egypt	3
HIST 151	World History: Traditional	3
HIST 152	World History: Modern World	3
HIST 160	Modern Russian History	3
HIST 162	Modern Latin America	3
HIST 260	Women in U.S. History	3
HUM 137	Introduction to Russian Culture	3
HUM 145	World Humanities: Ancient to Medieval	3
HUM 146	World Humanities: Renaissance to Modern	3
MUS 126	Introduction to World Music	3
POLS 122	Political Science	3
POLS 132	Introduction to Comparative Government	3
POLS 135	International Relations	3
POLS 200	Model United Nations	3
RDG 127	College Reading Strategies*	3
REL 120	Exploring World Religions	3
REL 125	Asian Religions	3
REL 126	Religions of the West	3
SOC 125	Social Problems	3
SOC 165	Contemporary Chinese Society	3

General Education Hours: 30

Open Elective Hours

Code	Title	Hours

Open electives are non-developmental courses meeting degree requirements. Please consult with a JCCC counselor for more information.

Elective Hours: 30

Total Program Hours: 60

* This course has registration requirements.

Degrees and Certificates

Degrees and certificates are listed under their program discipline in alphabetical order.

To change your degree intent submit the Degree Intent Change form (https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?
InstID=5ee6d92f-a2f6-4905-a331-db745c6c1353&targetUrl=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%2fStart
%2f44c4e52c-6b4a-4874-9e69-6864f019757b) to the Student Success Center.

Accounting

Accounting, AAS (p. 196)

American Sign Language/Deaf Studies

American Sign Language Studies Certificate (p. 198)

Animation

Animation-Entertainment and Game Art Design, AAS (p. 199)

Automation Engineer Technology

Automation Engineer Technology, AAS (p. 201)

Automotive Technology

Automotive Technology Maintenance and Light Repair Certificate (p. 205)

Automotive Technology Repair Certificate (p. 206)

Automotive Technology, AAS (p. 203)

Business Administration

Business Administration, AAS (p. 207)

Business Office Technology

Administrative Assistant Certificate (p. 209)

Administrative Assistant, AAS (p. 213)

Legal Administrative Assistant Certificate (p. 211)

Medical Office Specialist Certificate (p. 212)

Computer Information Systems

Computer Information Systems - Software Developer Certificate (p. 218)

Computer Information Systems, AAS (p. 215)

Computer Support Specialist

Computer Support Specialist A+ Certificate (p. 219)

Computer Support Specialist Networking+/Security+ Certificate (p. 220)

Computer Support Specialist, AAS (p. 222)

Construction Management

Construction Management Certificate (p. 225)

Construction Management Technology, AAS (p. 226)

Criminal Justice

Data Science

Dental Hygiene

Desktop Publishing

Drafting Technology

Education

Electrical Technology

Electronics Technology

Emergency Medical Science

Fashion Merchandising and Design

Fine Arts

Fire Services Administration

Game

General Sciences

General Studies

Graphic Design

Health Care Interpreting

Health Information Systems

Health Occupations

Health and Wellness

Heating, Ventilation and Air Conditioning Technology

Horticulture

Hospitality Management

Information Technology

Interior Design

Legal Studies

Liberal Arts

Marketing and Management

Medical Information and Revenue Management

Metal Fabrication/Welding

Neurodiagnostic Technology

Nursing

Plumbing Technology

Railroad Industrial Technology

Railroad Operations

Recording Arts

Respiratory Care

Sustainable Agriculture

Web Technologies

Accounting

Accounting Program

Accounting, AAS

Accounting is a crucial part of every business operation and the language that businesses speak. The associate of applied science degree program focuses on practical skills often required for entry-level accounting positions. The internship course gives the graduate on-the-job experience working in an approved business. Two-year graduates may find positions as general bookkeepers, accounting clerks and accounts receivable or payable specialists.

The accounting career program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP). For students wishing to transfer to a four-year college accounting or business program, this accreditation makes the transfer a smoother process. For more information, please contact the department chair (dkrug@jccc.edu) or a JCCC counselor.

(Major Code 2400; CIP Code 52.0302)

Accounting Program web page (https://www.jccc.edu/academics/credit/accounting/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
ACCT 121	Accounting I	3
ACCT 131	Federal Income Taxes I	3
CSS 128	PC Applications: MS Office	3
ENGL 121	Composition I*	3
MATH 171	College Algebra* (or higher)	3
or MATH 120	Business Mathematics*	
Total Hours		**15**

Second Semester

Code	Title	Hours
ACCT 122	Accounting II*	3
ACCT 137	Accounting Applications - QuickBooks*	3
BUS 121	Introduction to Business	3
or BUS 241	Principles of Management	
or MKT 230	Marketing	
COMS 120	Interpersonal Communication	3

or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
or ENGL 122	Composition II*	
CSS 111	Spreadsheets II: MS Excel*	1
Total Hours		**13**

Third Semester

Code	Title	Hours
Program Elective (see below)		6
ACCT 210	Data Analytics for Accounting*	3
ACCT 222	Managerial Accounting*	3
ACCT 231	Intermediate Accounting I*	3
Humanities Elective^		3
Total Hours		**18**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		3
ACCT 240	Fraud Examination*	3
ACCT 278	Accounting Internship*	1
ACCT 285	Accounting Capstone*	3
BLAW 261	Business Law I*	3
Social and Behavioral Sciences Elective ^		3
Note: ECON 132 or ECON 230 or ECON 231 are recommended		
Total Hours		**16**

Total Program Hours: 62

Program Electives

Code	Title	Hours
ACCT 132	Federal Income Taxes II*	3
ACCT 215	Accounting for Nonprofit Organizations*	3
ACCT 232	Intermediate Accounting II*	3
ACCT 292	Special Topics:*	1-3
BUS 121	Introduction to Business	3
BUS 241	Principles of Management	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3
MKT 230	Marketing	3
PHIL 140	Business Ethics	3

*   This course has registration requirements.

^   See all AAS general education electives (p. 180)

American Sign Language/Deaf Studies

American Sign Language/Deaf Studies Program

American Sign Language Studies Certificate (p. 198)

American Sign Language Studies Certificate

The American Sign Language (ASL) Studies sequence of courses has been developed based on the need for professionals and community members to develop conversational proficiency in ASL and an understanding of Deaf culture. This program is intended as supplementary education only and does not prepare the learner to work as an interpreter.

Students must earn a grade of "C" or higher in all ASL courses.

(Major Code 3240; CIP Code 16.1603)

ASL/Deaf Studies Program web page (https://www.jccc.edu/academics/credit/foreign-language/asl-deaf-studies/)

Certificate Requirements

First Semester

Code	Title	Hours
ASL 120	Elementary American Sign Language I	3
ASL 145	Introduction to the Deaf Community*	3
Total Hours		**6**

Second Semester

Code	Title	Hours
ASL 121	Elementary American Sign Language II*	3
Total Hours		**3**

Third Semester

Code	Title	Hours
ASL 122	Intermediate American Sign Language I*	3
ASL 147	Fingerspelling I*	2
Total Hours		**5**

Fourth Semester

Code	Title	Hours
ASL 123	Intermediate American Sign Language II*	3
ASL 135	Intro to American Sign Language Linguistics*	3
ASL 150	American Sign Language Literature*	3
Total Hours		**9**

Total Program Hours: 23

*   This course has registration requirements.

Animation

Animation Program

Animation-Entertainment and Game Art Design, AAS (p. 199)

Animation-Entertainment and Game Art Design, AAS

The Associate of Applied Science Degree in Animation provides instruction for creating animation, 3D modeling, and special effects for applications such as animated shorts, movies, and games. Fundamental digital drawing skills, design concepts, and the development of entertainment media assets will be covered. Courses in digital art assets and animation design will give students an employment advantage in the ever-growing entertainment and gaming industries. Depending on individual choices and talents, students who complete the Animation program should be prepared for employment as an animator, a game art creator, a 3D visual artist, and/or a special effects computer graphics artist.

(Major Code 2630; CIP Code 10.0304)

Animation Program web page (http://www.jccc.edu/academics/credit/animation/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
ANI 122	Digital Rendering for Animation	3
ANI 125	Introduction to 2D Animation	3
ANI 150	Introduction to 3D Modeling, Texturing and Materials	3
ENGL 121	Composition I*	3
PHOT 200	Foundations in Photography	3
or Humanities Elective^		
Total Hours		**15**

Second Semester

Code	Title	Hours
ANI 200	Advanced 2D Animation*	3
ANI 220	Computer Graphics Environments and Animation*	3
ANI 245	Introduction to Character Animation*	3
ANI 252	Advanced 3D Modeling*	3
English and Communications Elective ^		3
Note: COMS 120, or COMS 121 or ENGL 122 are recommended		
Total Hours		**15**

Third Semester

Code	Title	Hours
Program Elective (see below)		3
ANI 210	Digital Sculpting	3
Note: CIS 142 will satisfy the ANI 210 requirement.		
ANI 235	Character Modeling and Rigging*	3
ANI 255	Advanced Animation and Effects*	3
ANI 265	Advanced Character Animation*	3
Total Hours		**15**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		3
ANI 260	Animation Capstone*	3
ANI 275	Animation Career Preparation*	3
Mathmatics and Sciences Elective ^		3
Social and Behavior and Sciences Elective ^		3
Total Hours		**15**

Total Program Hours: 60

Program Electives

Code	Title	Hours
ANI 130	Motion Graphics and Effects*	3
ANI 258	Game Level Design*	3
ANI 270	Visual Effects and Compositing*	3
ART 130	Drawing I	3
ART 231	Life Drawing I*	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3

*   This course has registration requirements.

Automation Engineer Technology

Automation Engineer Technology Program

Automation Engineer Technology, AAS (p. 201)

Automation Engineer Technology, AAS

The Automation Engineer Technology program prepares individuals to develop, install and maintain automated systems used in an industrial setting. Topics of study include electrical systems, instrumentation and process control, programmable logic controllers (PLCs), fluid power systems, industrial robotics and preventative maintenance.

(Major Code 2050; CIP Code 15.0406)

Automation Engineer Technology Program web page (http://www.jccc.edu/academics/credit/automation-engineer-technology/)

Associate of Applied Science Degree

Fall Semester

Code	Title	Hours
AET 110	Industrial Maintenance	3
AET 122	Industrial Code	3
ELTE 110	AC/DC Circuits	4
MATH 130	Technical Mathematics I* (or higher)	3
Humanities Elective^		3
Total Hours		**16**

Spring Semester

Code	Title	Hours
AET 120	Industrial Fluid Power	3
AET 185	LAN Cabling and Installation	3
CMGT 100	Industrial Safety/OSHA-30	3
COMS 155	Workplace Skills	1
MATH 131	Technical Mathematics II* (or higher)	3
MFAB 124	Introduction to Welding	3
Total Hours		**16**

Fall Semester

Code	Title	Hours
Program Elective (see below)		3
AET 140	Actuator and Sensor Systems*	3
AET 240	Industrial Robotics*	3
AET 255	Motor Controls and Variable Frequency Drives*	3
ENGL 121	Composition I*	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
Program Elective (see below)		6
AET 160	Programmable Logic Controllers I*	3
AET 260	Programmable Logic Controllers II*	3

Social and Behavioral and Sciences Elective	3
Total Hours	**15**

Total Program Hours: 62

Program Electives

Code	Title	Hours
DRAF 129	Interpreting Architectural Drawings	2
DRAF 130	Introduction to CAD Concepts - AutoCAD*	3
ELEC 125	Digital Electronics I	4
IT 141	Introduction to Networks	3
IT 150	Switching, Routing, and Wireless Essentials*	3
MFAB 128	Basic Machine Tool Technology	3
MFAB 255	Advanced Machine Tool Technology*	3

* This course has registration requirements.
^ See all AAS general education electives (p. 180).

Automotive Technology

Automotive Technology Program

Automotive Technology, AAS

Automotive technicians generally begin their careers in service departments or independent repair facilities continually expanding industrial and service career advancement opportunities. Technicians work with experienced professionals and have frequent contact with the public. This field requires good mechanical aptitude, manual dexterity in addition to written and verbal communication skills.

The two-year associate of applied science degree, which is accredited by the ASE Education Foundation covers all major areas, including engine performance, brakes, steering and suspension, electrical/electronic systems, heating and air conditioning, automatic transmissions, engines, manual transmissions, and drivelines. Students work on developing the skills needed to advance in their field as an automotive technician.

(Major Code 2420; CIP Code 47.0604)

Automotive Program web page (http://www.jccc.edu/academics/credit/automotive-technology/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
AUTO 114	Introduction to Automotive Practices	4
AUTO 129	Brakes I*	3
AUTO 131	Brakes II*	1
AUTO 156	Electrical I*	3
COMS 155	Workplace Skills	1
Humanities Elective ^		3
Total Hours		**15**

Second Semester

Code	Title	Hours
AUTO 150	Steering and Suspension I*	3
AUTO 151	Alignment Practicum*	1
AUTO 155	Automotive Engine Repair*	3
AUTO 161	Engine Performance I*	3
AUTO 162	Electrical II*	3
Social and Behavioral Sciences Elective ^		3
Total Hours		**16**

Third Semester

Code	Title	Hours
AUTO 205	Engine Performance II*	3
AUTO 207	Manual Drivetrains and Axles*	3
AUTO 214	Electrical III*	4
ENGL 121	Composition I*	3
MATH 120	Business Mathematics* (or higher)	3

Note: Students transferring to 4-year programs should take MATH 171 College Algebra.

Total Hours		16

Fourth Semester

Code	Title	Hours
Program Elective (see below)		3
AUTO 201	ASE Certification Review*	1
AUTO 211	Automotive Heating and Air Conditioning*	3
AUTO 215	Engine Performance III*	3
AUTO 252	Automatic Transmissions*	3
ENGL 123	Technical Writing I*	3
Total Hours		**16**

Total Program Hours: 63

Program Electives

Code	Title	Hours
AUTO 121	Small Engine Service	3
AUTO 237	Diesel and Hybrid Vehicles Maintenance and Light Repair*	3
AUTO 265	Comprehensive Vehicle Diagnosis*	3
AUTO 271	Automotive Technology Internship*	3
AUTO 291	Independent Study*	1-7

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Automotive Technology Maintenance and Light Repair Certificate

Students in the Automotive Technology Maintenance and Light Repair Certificate will learn to perform basic repairs and maintenance on automotive systems such as electrical systems, brakes, alignments, suspension, steering, engine repair, and an introduction to engine performance. This certificate also provides credit towards completing the comprehensive Automotive Technology - Repair Certificate (p. 206) and/or the Automotive Technology Associate of Applied Science (p. 203) degree.

(Major Code 6740; CIP Code 47.0604)

Automotive Technology Program web page (http://www.jccc.edu/academics/credit/automotive-technology/)

Certificate Requirements

First Semester

Code	Title	Hours
AUTO 114	Introduction to Automotive Practices	4
AUTO 129	Brakes I*	3
AUTO 131	Brakes II*	1
AUTO 156	Electrical I*	3
COMS 155	Workplace Skills	1
Total Hours		**12**

Second Semester

Code	Title	Hours
AUTO 150	Steering and Suspension I*	3
AUTO 151	Alignment Practicum*	1
AUTO 155	Automotive Engine Repair*	3
AUTO 161	Engine Performance I*	3
AUTO 162	Electrical II*	3
Total Hours		**13**

Total Program Hours: 25

*   This course has registration requirements.

Automotive Technology Repair Certificate

The Automotive Technology Repair Certificate is specifically designed for students learning to become technicians who perform basic diagnostic and repair services in the automotive industry. These technicians perform the repair work being done in repair shops across the nation. Classes required will increase an individual's technical knowledge of comprehensive maintenance, basic diagnostics and repairs in the critical areas of engine systems, automatic transmission/transaxle, manual drive train and axles, engine performance, suspension and steering, brakes, electrical, and heating and air conditioning.

(Major Code 3060; CIP Code 47.0604)

Automotive Technology Program web page (http://www.jccc.edu/academics/credit/automotive-technology/)

Certificate Requirements

First Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
AUTO 114	Introduction to Automotive Practices	4
AUTO 129	Brakes I*	3
AUTO 131	Brakes II*	1
AUTO 156	Electrical I*	3
Total Hours		**12**

Second Semester

Code	Title	Hours
AUTO 150	Steering and Suspension I*	3
AUTO 151	Alignment Practicum*	1
AUTO 155	Automotive Engine Repair*	3
AUTO 161	Engine Performance I*	3
AUTO 162	Electrical II*	3
Total Hours		**13**

Third Semester

Code	Title	Hours
AUTO 205	Engine Performance II*	3
AUTO 207	Manual Drivetrains and Axles*	3
AUTO 214	Electrical III*	4
ENGL 121	Composition I*	3
MATH 120	Business Mathematics*	3
Note: Students transferring to 4-year programs should take MATH 171 College Algebra.		
Total Hours		**16**

Fourth Semester

Code	Title	Hours
AUTO 201	ASE Certification Review*	1
AUTO 215	Engine Performance III*	3
AUTO 211	Automotive Heating and Air Conditioning*	3
AUTO 252	Automatic Transmissions*	3
Total Hours		**10**

Total Program Hours: 51

*   This course has registration requirements.

Business Administration

Business Administration Program

Business Administration, AAS (p. 207)

Business Administration, AAS

Business is more competitive than ever before. People running businesses will be judged by how well they manage change, stay ahead of trends and learn the latest theories. JCCC's business administration career program can train you in the many skills required to manage a variety of businesses.

Focusing on the development of decision-making, organizational and supervisory skills, the program offers professional courses in management, marketing, economics, accounting, finance, communications, business law and data processing. These are combined with a core of general education courses to ensure that students receive a well-rounded curriculum.

Graduates have opportunities in entry-level management and supervisory positions in a variety of businesses. Johnson County's continued growth as the business center for the area means enhanced job opportunities.

(Major Code 2430; CIP Code 52.0201)

Business Administration Program web page (http://www.jccc.edu/academics/credit/business-administration/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
CIS/CS/CDTP/CSS Elective (not including CSS 105 or CSS 106)		4
Note: CSS 121 is recommended		
BUS 121	Introduction to Business	3
BUS 225	Organizational Behavior	3
ENGL 121	Composition I*	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**16**

Second Semester

Code	Title	Hours
ACCT 121	Accounting I	3
BUS 241	Principles of Management	3
or BUS 245	Small Business Management	
ECON 230	Principles of Macroeconomics	3
Communication Elective ^		3
Note: COMS 120, COMS 121, COMS 125 or ENGL 123 is recommended		
Humanities Elective ^		3
Total Hours		**15**

Third Semester

Code	Title	Hours
Business Elective		3
Note: Business electives are any courses with the ACCT, BUS, ECON, ENTR or MKT prefix; or BOT 130 Business and Office Practices.		
ACCT 122	Accounting II*	3
BLAW 261	Business Law I*	3
ECON 231	Principles of Microeconomics	3
MKT 230	Marketing	3

PHIL 140	Business Ethics	3
Total Hours		**18**

Fourth Semester

Code	Title	Hours
ACCT 222	Managerial Accounting*	3
BUS 123	Personal Finance	3
or BUS 215	Savings and Investments	
BUS 235	Introduction to International Business	3
or BUS 243	Human Resource Management	
BLAW 263	Business Law II*	3
EVRN 130	Environmental Science	3
or EVRN 134	Principles of Sustainability	
Total Hours		**15**

Total Program Hours: 64

^   See all AAS general education electives (p. 180)
*   This course has registration requirements.

Business Office Technology

Business Office Technology Programs

Short-Term Certificates

Two-Year Degree

Administrative Assistant Certificate

This certificate program prepares students for administrative assistant positions in business offices. Emphasis is on the development of communication, decision-making, and problem-solving skills, learning office procedures for various administrative tasks, and using current web tools and software application programs to complete projects. The program provides training for students seeking entry-level positions and for those who are upgrading existing skills.

(Major Code 5320; CIP Code 52.0401)

Business Office Technology Program web page (http://www.jccc.edu/academics/credit/business-office-technology/)

Certificate Requirements

Fall Semester

Code	Title	Hours
BOT 105	Business Document Preparation*	3
BOT 130	Business Office Procedures	3
BUS 121	Introduction to Business	3
CSS 128	PC Applications: MS Office	3
ENGL 121	Composition I*	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
ACCT 111	Small Business Accounting	3
or ACCT 121	Accounting I	
BOT 260	Desktop Publishing for the Office: Publisher*	3
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
CSS 118	Groupware: Outlook*	1
CSS 121	Introduction to Project Management*	1
CSS 228	PC Applications II: MS Office*	3
LAW 121	Introduction to Law	3
or BLAW 261	Business Law I*	
Total Hours		**17**

Total Program Hours: 32

*   This course has registration requirements.

Legal Administrative Assistant Certificate

This certificate program prepares students for legal office positions in law firms, courthouses, and business legal offices. Emphasis is on learning about the U.S. legal system, Legal office procedures, legal terminology, as well as developing communication, decision-making, and problem-solving skills, and using current online tools and software application programs. The program provides training for students in entry-level positions as well as for those who are upgrading existing skills.

Note: *The Legal Administrative Assistant Certificate is not associated with the JCCC Paralegal programs and is not intended to prepare students to work as a paralegal.*

(Major Code 5050; CIP Code 22.0301)

Business Office Technology Program web page (http://www.jccc.edu/academics/credit/business-office-technology/)

Certificate Requirements

Fall Semester

Code	Title	Hours
BOT 105	Business Document Preparation*	3
BOT 130	Business Office Procedures	3
CSS 128	PC Applications: MS Office	3
LAW 121	Introduction to Law	3
or BLAW 261	Business Law I*	
LAW 134	Introduction to Legal Technology*	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
BOT 260	Desktop Publishing for the Office: Publisher*	3
CSS 118	Groupware: Outlook*	1
CSS 121	Introduction to Project Management*	1
CSS 228	PC Applications II: MS Office*	3
ENGL 121	Composition I*	3
HC 130	Medical Terminology for Healthcare Professions	3
LAW 201	Advanced Legal Technology*	3
Total Hours		**17**

Total Program Hours: 32

* This course has registration requirements.

Medical Office Specialist Certificate

This certificate program prepares students for medical office positions in hospitals, clinics, and physician offices. Emphasis is on learning medical terminology, working with electronic health records, using current web tools and application programs, and developing communication, decision-making, and problem-solving skills. The program provides training for students seeking entry-level positions and those who are upgrading existing skills.

(Major Code 5310; CIP Code 51.0710)

Business Office Technology Program web page (http://www.jccc.edu/academics/credit/business-office-technology/)

Certificate Requirements

Fall Semester

Code	Title	Hours
BOT 105	Business Document Preparation*	3
BOT 130	Business Office Procedures	3
BOT 141	Electronic Health Records Applications	3
CSS 128	PC Applications: MS Office	3
HC 130	Medical Terminology for Healthcare Professions	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
BOT 170	Introduction to Medical Coding and Billing*	3
BOT 260	Desktop Publishing for the Office: Publisher*	3
CSS 118	Groupware: Outlook*	1
CSS 121	Introduction to Project Management*	1
CSS 228	PC Applications II: MS Office*	3
ENGL 121	Composition I*	3
MIRM 142	Legal and Ethical Issues in Healthcare	3
Total Hours		**17**

Total Program Hours: 32

*   This course has registration requirements.

Administrative Assistant, AAS

This degree program prepares students for administrative professional positions in business offices. Emphasis is on the development of communication, decision-making, and problem-solving skills; and the use of current web tools and software application programs. Additional studies in records management, human resources, social media marketing, management, and general education are included as well as a capstone course and office internship. The program provides training for students in entry-level positions as well as for those who are upgrading existing skills.

(Major Code 2680; CIP Code 52.0401)

Business Office Technology Program web page (http://www.jccc.edu/academics/credit/business-office-technology/)

Associate of Applied Science Degree

Fall Semester (Medical Option)

Code	Title	Hours
BOT 105	Business Document Preparation*	3
BOT 130	Business Office Procedures	3
BOT 141	Electronic Health Records Applications	3
CSS 128	PC Applications: MS Office	3
HC 130	Medical Terminology for Healthcare Professions	3
Total Hours		**15**

Fall Semester (Legal Option)

Code	Title	Hours
BOT 105	Business Document Preparation*	3
BOT 130	Business Office Procedures	3
CSS 128	PC Applications: MS Office	3
LAW 121	Introduction to Law	3
or BLAW 261	Business Law I*	
LAW 134	Introduction to Legal Technology*	3
Total Hours		**15**

Fall Semester (Administrative Option)

Code	Title	Hours
BOT 105	Business Document Preparation*	3
BOT 130	Business Office Procedures	3
BUS 121	Introduction to Business	3
CSS 128	PC Applications: MS Office	3
ENGL 121	Composition I*	3
Total Hours		**15**

Spring Semester (Medical Option)

Code	Title	Hours
BOT 170	Introduction to Medical Coding and Billing*	3
BOT 260	Desktop Publishing for the Office: Publisher*	3
CSS 118	Groupware: Outlook*	1
CSS 121	Introduction to Project Management*	1
CSS 228	PC Applications II: MS Office*	3
ENGL 121	Composition I*	3
MIRM 142	Legal and Ethical Issues in Healthcare	3
Total Hours		**17**

Spring Semester (Legal Option)

Code	Title	Hours
BOT 260	Desktop Publishing for the Office: Publisher*	3
CSS 118	Groupware: Outlook*	1
CSS 121	Introduction to Project Management*	1
CSS 228	PC Applications II: MS Office*	3
ENGL 121	Composition I*	3
HC 130	Medical Terminology for Healthcare Professions	3
LAW 201	Advanced Legal Technology*	3
Total Hours		**17**

Spring Semester (Administrative Option)

Code	Title	Hours
ACCT 111	Small Business Accounting	3
or ACCT 121	Accounting I	
BOT 260	Desktop Publishing for the Office: Publisher*	3
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
CSS 118	Groupware: Outlook*	1
CSS 121	Introduction to Project Management*	1
CSS 228	PC Applications II: MS Office*	3
LAW 121	Introduction to Law	3
or BLAW 261	Business Law I*	
Total Hours		**17**

Fall Semester

Code	Title	Hours
BOT 150	Records Management*	3
BUS 225	Organizational Behavior	3
BUS 241	Principles of Management	3
BUS 243	Human Resource Management	3
ENGL 123	Technical Writing I*	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
BOT 265	Business Office Simulation*	3
BOT 275	Office Internship*	1
MATH 120	Business Mathematics* (or higher)	3
MKT 146	Introduction to Social Media Marketing	3
Humanities Elective ^		3
Social Science and/or Economics Elective ^		3
Total Hours		**16**

Total Program Hours: 63

* This course has registration requirements.
^ See all AAS general education electives (p. 180)

Computer Information Systems

Computer Information Systems Program

Computer Information Systems - Software Developer Certificate (p. 218)

Computer Information Systems, AAS (p. 215)

Computer Information Systems, AAS

Employment opportunities for programmer analysts and related positions continue to be strong and growing. Key areas include object-oriented programming, database management, client-server applications, security and mobile development.

JCCC's associate of applied science in computer information systems focuses on skills needed for entry-level software development and related positions. The program is designed to prepare professionals with skills that are applicable to different computing systems. With its emphasis on practical experience and on currency in software and curriculum, the program has much to offer the information systems professional who wishes to upgrade or broaden his or her knowledge of the field.

(Major Code 2930; CIP Code 11.0201)

Software Development Program web page (https://www.jccc.edu/academics/credit/software-development/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
CS 134	Programming Fundamentals	4
or CIS 142	Beginning Programming using Python	
ENGL 121	Composition I*	3
MATH 171	College Algebra* (or any Precalculus/Calculus course)	3
WEB 110	HTML and CSS	3
Social and Behavioral Sciences Elective ^		3
Note: An Economics (ECON) course is recommended. Transfer students should take a course that transfers to their chosen school.		
Total Hours		**16**

Second Semester

Code	Title	Hours
CIS 204	UNIX Scripting and Utilities*	3
CS 200	Concepts of Programming Algorithms Using C++*	4
or CS 201	Concepts of Programming Algorithms using C#*	
or CS 205	Concepts of Programming Algorithms using Java*	
Note: Transfer students should take the language that transfers to their chosen school. KU transfer students should contact the JCCC CSIS department chair about potentially taking CS 202 as an alternative. Java or C# is recommended for most career students. C++ is recommended for embedded systems and Java for mobile development.		
IT 141	Introduction to Networks	3
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
or ENGL 123	Technical Writing I*	
Humanities Elective ^		3
Note: PHIL 124 or PHIL 143 is recommended. Transfer students should take a course that transfers to their chosen school.		
Total Hours		**16**

Third Semester

Code	Title	Hours
Program Elective (see below)		3
CIS 242	Introduction to System Design and Analysis*	3
CIS 260	Database Management*	4
CS 235	Object-Oriented Programming Using C++*	4
or CS 236	Object-Oriented Programming Using C#*	
or CIS 240	Advanced Topics in Java*	
WEB 114	Web Scripting: JavaScript I*	2
Total Hours		**16**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		3
Note: WEB 124 is recommended, a minimum of 6 total hours is required for Program Electives.		
CIS 264	Application Development and Programming*	4
CIS 275	Web-Enabled Database Programming*	4
CS 250	Basic Data Structures using C++*	4
or CS 255	Basic Data Structures Using Java*	
Note: Students who complete CS 202 should contact the JCCC CSIS department chair about taking CS 252 as an alternative.		
Total Hours		**15**

Total Program Hours: 63

Program Electives

Code	Title	Hours
ACCT 121	Accounting I	3
CIS 201	Introduction to Information Systems*	3
CIS 208	Mobile Application Development*	4
CIS 240	Advanced Topics in Java*	4
CIS 270	Information Systems Internship*	3
CIS 291	Independent Study*	1-7
CIS 292	Special Topics:*	1-4
CS 202	Concepts of Programming Algorithms using Python*	4
CS 210	Discrete Structures I*	3
CS 211	Discrete Structures II*	3
CS 235	Object-Oriented Programming Using C++*	4
CS 236	Object-Oriented Programming Using C#*	4
CS 250	Basic Data Structures using C++*	4
CS 252	Basic Data Structures Using Python*	4
CS 255	Basic Data Structures Using Java*	4
DS 210	Introduction to Data Science	3
DS 220	Data Visualization	3
DS 230	SQL for Data Analysis	3
DS 240	Introduction to Statistical Programming	3
DS 260	Data Mining*	3
DS 270	Introduction to Machine Learning*	3
DS 280	Big Data Architecture	3
WEB 124	Web Scripting: JavaScript II*	2
WEB 126	Technical Interface Skills*	3
WEB 128	Server Scripting: PHP with MySQL*	2

*   This course has registration requirements.

^   See all AAS general education electives (p. 180).

Computer Information Systems-Software Developer Certificate

The Computer Information Systems - Software Developer Certificate provides a foundation in skills needed to analyze business problems and develop software solutions using current industry standard development tools. The certificate provides an academic credential reflecting enhanced job skills for those seeking advancement in their information services career or for individuals with a prior degree in another discipline seeking a career change.

(Major Code 5180; CIP Code 11.0201)

Software Development Program web page (http://www.jccc.edu/academics/credit/software-development/)

Certificate Requirements

First Semester

Code	Title	Hours
CS 134	Programming Fundamentals	4
or CIS 142	Beginning Programming using Python	
MATH 171	College Algebra*	3
WEB 110	HTML and CSS	3
Total Hours		**10**

Second Semester

Code	Title	Hours
CIS 204	UNIX Scripting and Utilities*	3
CS 200	Concepts of Programming Algorithms Using C++*	4
or CS 201	Concepts of Programming Algorithms using C#*	
or CS 205	Concepts of Programming Algorithms using Java*	
Note: Transfer students should take the language that transfers to their chosen school. Java or C# is recommended for most career students. C++ is recommended for embedded systems and Java for mobile development.		
WEB 114	Web Scripting: JavaScript I*	2
Total Hours		**9**

Third Semester

Code	Title	Hours
CIS 242	Introduction to System Design and Analysis*	3
CIS 260	Database Management*	4
CIS 275	Web-Enabled Database Programming*	4
CS 235	Object-Oriented Programming Using C++*	4
or CS 236	Object-Oriented Programming Using C#*	
or CIS 240	Advanced Topics in Java*	
Total Hours		**15**

Total Program Hours: 34

*   This course has registration requirements.

Computer Support Specialist

Computer Support Specialist Program

Computer Support Specialist A+ Certificate (p. 219)

Computer Support Specialist Networking+/Security+ Certificate (p. 220)

Computer Support Specialist, AAS (p. 222)

Computer Support Specialist A+ Certificate

The Computer Support Specialist A+ 16-credit hour certificate is an industry-respected starting point for individuals to pursue a career in Information Systems. The certificate provides valuable technical and communication skills required across the Information Systems industry. Students develop essential skills in hardware, software, networking, written communication, verbal communication, and problem-solving. Upon completion of the certificate, students are prepared to take the CompTIA A+ certification exam, enter the workforce in an entry-level computer support position, or continue their studies.

(Major Code 6610; CIP Code 11.1006)

Computer Support Program web page (http://www.jccc.edu/academics/credit/computer-support/)

Certificate Requirements

Semester Sequence

Code	Title	Hours
CSS 105	Introduction to Personal Computers: Windows	1
CSS 120	Computer User Support Skills*	3
CSS 128	PC Applications: MS Office	3
or CSS 108	Word Processing I: MS Word*	
& CSS 110	and Spreadsheets I: MS Excel	
& CSS 123	and E-Presentation: MS PowerPoint	
ELEC 186	CompTIA A+ Core 1	3
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3
Total Hours		**16**

Total Program Hours: 16

Note: Students eligible for the Computer Support Specialist A+ Certificate are qualified to take the Computing Technology Industry Association (CompTIA) A+ Certification Credential Exam.

*   This course has registration requirements.

Computer Support Specialist Networking+/Security+ Certificate

The Computer Support Specialist Network+/Security+ 35 credit-hour certificate provides additional technical skills and industry-recognized credentials for students to qualify for a wider range of high-demand positions across the broad field of information systems.   Upon completion of the certificate, students are prepared to take both the CompTIA Network+ and Security+ exams. Individuals may choose to enter the workforce with strong computer, network and security support skills, or continue another year of studies to complete their Computer Support Specialist Associate of Applied Science (p. 222) degree.

(Major Code 6620; CIP Code 11.1006)

Computer Support Program web page (http://www.jccc.edu/academics/credit/computer-support/)

Certificate Requirements

First Semester

Code	Title	Hours
CSS 105	Introduction to Personal Computers: Windows	1
CSS 120	Computer User Support Skills*	3
CSS 128	PC Applications: MS Office	3
or CSS 108	Word Processing I: MS Word*	
& CSS 110	and Spreadsheets I: MS Excel	
& CSS 123	and E-Presentation: MS PowerPoint	
ELEC 186	CompTIA A+ Core 1	3
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3
Total Hours		**16**

Note: Students eligible for the Computer Support Specialist A+ Certificate *(p. 219) are qualified to take the Computing Technology Industry Association (CompTIA) A+ Certification Credential Exam.*

Second Semester

Code	Title	Hours
CSS 106	Introduction to Personal Computers: Macintosh	1
CSS 109	Google Apps*	1
CSS 118	Groupware: Outlook*	1
CSS 138	Operating Systems: Windows*	1
CSS 140	Digital Devices and Online Technologies*	3
IT 150	Switching, Routing, and Wireless Essentials*	3
IT 151	VMware vSphere Essentials*	3
or IT 152	Google Cloud Fundamentals*	
or IT 153	AWS Cloud Foundations*	
or IT 155	Microsoft Administration Fundamentals*	
or WEB 110	HTML and CSS	
WEB 112	Professional Skills for the Digital Developer	3
Total Hours		**16**

Third Semester

Code	Title	Hours
IT 175	Cybersecurity Fundamentals*	3
Total Hours		**3**

Total Program Hours: 35

Note: Students eligible for this certificate are qualified to take the Computing Technology Industry Association (CompTIA) Network+ and Security+ Credential Exams.

*   This course has registration requirements.

Computer Support Specialist, AAS

The Computer Support Specialist 63 credit hour Associate of Applied Science degree prepares individuals to provide technical assistance, support, and advice to computer users to troubleshoot software, hardware, and networking problems. This two-year degree includes instruction in computer concepts, information systems, networking, security, operating systems, the Internet, software applications, help desk concepts, effective written and verbal communication skills, team management, project management, customer service, and problem-solving skills. Courses are completed in state-of-the-art computer labs at Johnson County Community College. Students are prepared to enter the workforce as Computer User Support Specialists, Help Desk Technicians, Technical Support Specialists, or IT Support Representatives.

(Major Code 2060; CIP Code 11.1006)

Computer Support Program web page (http://www.jccc.edu/academics/credit/computer-support/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
CSS 105	Introduction to Personal Computers: Windows	1
CSS 120	Computer User Support Skills*	3
CSS 128	PC Applications: MS Office	3
or CSS 108	Word Processing I: MS Word*	
& CSS 110	and Spreadsheets I: MS Excel	
& CSS 123	and E-Presentation: MS PowerPoint	
ELEC 186	CompTIA A+ Core 1	3
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3
Total Hours		**16**

Note: *Students eligible for the* Computer Support Specialist A+ Certificate *(p. 219) are qualified to take the Computing Technology Industry Association (CompTIA) A+ Certification Credential Exam.*

Second Semester

Code	Title	Hours
CSS 106	Introduction to Personal Computers: Macintosh	1
CSS 109	Google Apps*	1
CSS 118	Groupware: Outlook*	1
CSS 138	Operating Systems: Windows*	1
CSS 140	Digital Devices and Online Technologies*	3
IT 150	Switching, Routing, and Wireless Essentials*	3
IT 151	VMware vSphere Essentials*	3
or IT 152	Google Cloud Fundamentals*	
or IT 153	AWS Cloud Foundations*	
or IT 155	Microsoft Administration Fundamentals*	
or WEB 110	HTML and CSS	
WEB 112	Professional Skills for the Digital Developer	3
Total Hours		**16**

Third Semester

Code	Title	Hours
CSS 114	Databases I: MS Access*	1
ENGL 121	Composition I*	3
IT 175	Cybersecurity Fundamentals*	3
Communications Elective^		3
Humanities Elective^		3

Program Elective (see below)		2
Total Hours		**15**

Note: Students eligible for the Computer Support Specialist Networking+/Security+ Certificate *(p. 220) are qualified to take the Computing Technology Industry Association (CompTIA) Network+ and Security+ Credential Exams.*

Fourth Semester

Code	Title	Hours
CSS 121	Introduction to Project Management*	1
Science and/or Math Elective^		3
Note: MATH 120 is recommended		
Social Science and Behavioral Sciences^		3
Program Elective (see below)		9
Total Hours		**16**

Total Program Hours: 63

Program Electives

Code	Title	Hours
CIS 124	Introduction to Computer Concepts and Applications	3
CIS 142	Beginning Programming using Python	4
CIS 204	UNIX Scripting and Utilities*	3
CS 134	Programming Fundamentals	4
CSS 111	Spreadsheets II: MS Excel*	1
CSS 113	Spreadsheets I, II & III: MS Excel*	3
CSS 115	Databases II: MS Access*	2
CSS 125	Word Processing II: MS Word*	1
CSS 228	PC Applications II: MS Office*	3
CSS 290	Computer Support Specialist Internship*	2
CSS 291	Independent Study*	1-7
CSS 292	Special Topics:*	1-3
HCIS 225	Healthcare Data Analytics	2
HCIS 235	Care Coordination and Interoperable Health IT Systems	2
HCIS 245	Population Health	2
HCIS 255	Technology Concepts and Cybersecurity in Healthcare	2
HCIS 262	Customer Service in the Health Environment	2
HCIS 263	Working with Health Information Technology (HIT) Systems	2
HCIS 264	Configuration and Implementation of Electronic Health Records	2
HCIS 265	Installation and Maintenance of Health IT Systems	2
HCIS 267	EHR Design, Functionality and Usability	3
HCIS 271	The Culture of Healthcare	2
HCIS 272	Terminology in Health Care Settings	2
HCIS 273	Quality Improvement in Healthcare	2
HCIS 274	Healthcare Workflow Analysis and Redesign	2
HCIS 277	Training and Instructional Design	2
IT 155	Microsoft Administration Fundamentals*	3
IT 204	Enterprise Networking, Security and Automation*	3
IT 206	Network Security Fundamentals*	3
IT 230	Linux Fundamentals	3
WEB 114	Web Scripting: JavaScript I*	2
WEB 116	Digital Media Concepts	2
WEB 118	Digital Workflow	3

| WEB 120 | Web Analytics* | 3 |
| WEB 121 | Digital Media Assets* | 4 |

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Construction Management

Construction Management Program

Construction Management Certificate (p. 225)

Construction Management Technology, AAS (p. 226)

Construction Management Certificate

The construction management certificate is designed to address the management training needs of supervisors in the construction industry. Necessary management skills include construction methods, safety, estimating and management; personnel supervision; business management; and financial and data management. Construction management practices are directed toward those encountered by small- to medium-sized contractors.

(Major Code 4750; CIP Code 52.2001)

Construction Management Program web page (http://www.jccc.edu/academics/credit/construction-management/)

Certificate Requirements

First Semester

Code	Title	Hours
BUS 140	Principles of Supervision	3
CMGT 105	Construction Methods	3
CMGT 125	Construction Specifications*	2
DRAF 129	Interpreting Architectural Drawings	2
DRAF 143	Introduction to BIM Building Information Modeling*	2
MATH 130	Technical Mathematics I* (or higher)	3
Total Hours		**15**

Second Semester

Code	Title	Hours
ACCT 111	Small Business Accounting	3
or ACCT 121	Accounting I	
CMGT 129	Construction Management	3
CMGT 150	Construction Safety/OSHA-30	3
CMGT 160	Green Building Fundamentals*	3
CMGT 225	Construction Documents*	2
COMS 155	Workplace Skills	1
Total Hours		**15**

Total Program Hours: 30

*   This course has registration requirements.

Construction Management Technology, AAS

The construction management technology degree prepares individuals to manage, coordinate, and supervise the construction process from concept development through project completion on timely and economic bases. Topics include construction processes and techniques; construction contracting; organization and scheduling; applicable codes and regulations; cost estimating; building information modeling (BIM); personnel management and labor relations; business skills; site safety; and sustainable building fundamentals.

Graduates are ready to work as managers, inspectors, field supervisors, and estimators for general contractors and subcontractors in the commercial construction industry. An associate of applied science degree is awarded upon the successful completion of 63 credit hours.

(Major Code 2310; CIP Code 52.2001)

Construction Management Program web page (http://www.jccc.edu/academics/credit/construction-management/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
BUS 140	Principles of Supervision	3
CMGT 105	Construction Methods	3
CMGT 125	Construction Specifications*	2
DRAF 129	Interpreting Architectural Drawings	2
DRAF 143	Introduction to BIM Building Information Modeling*	2
MATH 130	Technical Mathematics I* (or higher)	3
Total Hours		**15**

Second Semester

Code	Title	Hours
ACCT 111	Small Business Accounting	3
or ACCT 121	Accounting I	
CMGT 129	Construction Management	3
CMGT 150	Construction Safety/OSHA-30	3
CMGT 160	Green Building Fundamentals*	3
CMGT 225	Construction Documents*	2
COMS 155	Workplace Skills	1
Total Hours		**15**

Third Semester

Code	Title	Hours
CMGT 123	Building Codes*	3
CMGT 140	Construction Materials*	3
CMGT 205	Advanced Construction Methods*	3
ENGL 121	Composition I*	3
Humanities Elective ^		3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**18**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		4
CMGT 227	Construction Cost Estimating*	3
CMGT 229	Advanced Construction Management*	3
GEOS 130	General Geology	5
Total Hours		**15**

Total Program Hours: 63

Program Electives

Code	Title	Hours
BUS 241	Principles of Management	3
BUS 243	Human Resource Management	3
BUS 245	Small Business Management	3
BLAW 261	Business Law I*	3
CMGT 271	Construction Management Internship*	3
CSS 105	Introduction to Personal Computers: Windows	1
CSS 108	Word Processing I: MS Word*	1
CSS 110	Spreadsheets I: MS Excel*	1
CSS 121	Introduction to Project Management*	1
CSS 128	PC Applications: MS Office	3
DRAF 243	Advanced BIM: Revit*	2
ENGR 131	Engineering Graphics I:AutoCAD*	4
ENTR 120	Introduction to Entrepreneurship	2
ENTR 142	Business Plan	3
ENTR 180	Opportunity Analysis	2

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Criminal Justice

Criminal Justice Program

Police Academy Certificate

This course consists of 60 clock hours of law enforcement training provided in addition to the 540 hours required by the Kansas Minimum Standards Training Act for recruits attending the Police Academy. While the required 600-hour curriculum is provided without fee, enrollment in advanced training is required of all those attending the academy. The curriculum covers law, criminal investigations, patrol procedures, defensive tactics, report writing and specialized training required by local law enforcement agencies.

(Major Code 4880; CIP Code 43.0103)

Johnson County Regional Police Academy web page (http://www.jccc.edu/academics/credit/police-academy/)

Certificate Requirement

Prerequisites for Required Course

Department Approval Admissions required; open only to currently employed full-time police officers attending the Police Academy under sponsorship of a law enforcement agency.

Required Course

Code	Title	Hours
CJ 265	Advanced Police Training*	12
Total Hours		**12**

Total Program Hours: 12

*   This course has registration requirements.

Data Science

Data Science Program

Data Analytics Certificate (https://catalog.jccc.edu/degreecertificates/datascience//data-analytics-certificate/)

Data Analytics Certificate

Individuals with or without a college degree whose goal is to acquire or improve their data analytic skills will accomplish their goals in this program. Emphasis is on acquiring results-oriented career business and industry skills. The program is intended for those seeking entry-level positions as well as those currently employed who desire to enhance their job skills. It provides employers and current prospective employees with tangible evidence of data analytic competencies.

Students must earn a grade of "C" or higher in all coursework.

(Major Code 5460; CIP Code 11.0802)

Data Analytics Program web page (http://www.jccc.edu/academics/credit/data-analytics/)

Certificate Requirements

First Semester

Code	Title	Hours
DS 210	Introduction to Data Science	3
DS 220	Data Visualization	3
DS 230	SQL for Data Analysis	3
DS 240	Introduction to Statistical Programming	3
Total Hours		**12**

Second Semester

Code	Title	Hours
DS 260	Data Mining*	3
DS 270	Introduction to Machine Learning*	3
DS 280	Big Data Architecture	3
MATH 181	Statistics*	3
Total Hours		**12**

Total Program Hours: 24

*   This course has registration requirements.

Dental Hygiene

Dental Hygiene Program

Dental Hygiene, AAS (p. 230)

Dental Hygiene, AAS

A key member of the professional dental team, the licensed dental hygienist is on the "front line" of patient care, responsible for providing educational, clinical and therapeutic services that promote total health through good oral health. The growing public awareness of the benefits of oral health, combined with the growth of corporate dental plans, has significantly increased the demand for dental care and has made dental hygiene one of the country's fastest-growing careers. The U.S. Bureau of Labor Statistics suggests the dental hygiene profession is expected to grow 20 percent from 2016 to 2026, much faster than that for all occupations. Competitive salaries and flexible work schedules are added benefits. Students in JCCC's dental hygiene program prepare for careers as preventive dental professionals who have a choice of working in a variety of settings. Upon successful completion of licensure requirements and board examinations, graduates find jobs in school systems, nursing homes and dental supply firms, as well as private dental offices.

Fully accredited by the American Dental Association Commission on Dental Accreditation, this 79-credit-hour program requires four semesters and one summer session of full-time study. Successful completion leads to an associate of applied science degree. All dental hygiene students gain important practical experience working in JCCC's state-of-the-art clinical facility under the supervision of licensed dental hygienists and dentists.

For more information about the career paths of the dental hygiene professional, see the American Dental Hygiene Association website (http://www.adha.org/professional-roles/).

Enrollment is limited. The deadline for fall semester applications is December 1st. Fall course transcripts are due January 15th. For an application, call the dental hygiene program at (913)469-3808 or download a copy by visiting Dental Hygiene Application Process. (http://www.jccc.edu/academics/credit/dental-hygiene/dhyg-applicaion-instructions.html)

(Major Code 223A; CIP Code 51.0602)

Dental Hygiene Program web page (http://www.jccc.edu/academics/credit/dental-hygiene/)

Associate of Applied Science Degree

Before Beginning Clinical Courses

Code	Title	Hours
BIOL 140	Human Anatomy (BIOL 140 must be taken prior to BIOL 225)	4
BIOL 225	Human Physiology*	4
BIOL 230 & BIOL 231	Microbiology* and Microbiology Lab*	5
CHEM 122	Principles of Chemistry* (CHEM 122 must be taken prior to BIOL 225, BIOL 230 and BIOL 231)	5
	Note: CHEM 124 and CHEM 125 will satisfy the CHEM 122 requirement.	
ENGL 121	Composition I*	3
PSYC 130	Introduction to Psychology	3
Total Hours		**24**

Note: CHEM 122 *or BIOL 140 or* BIOL 230 *and* BIOL 231 *and either* ENGL 121 *or* PSYC 130 *must be completed by the end of the fall semester.*

Note: *Transcripts from the fall semester are due January 15. The application deadline is December 1.*

Fall Semester

Code	Title	Hours
DHYG 121	Clinical Dental Hygiene I: Pre-Clinic*	5
DHYG 125	Developmental Dentistry*	2
DHYG 138	Head and Neck Anatomy*	2
DHYG 142	Dental Radiography*	2

| SOC 122 | Introduction to Sociology | 3 |
| **Total Hours** | | **14** |

Spring Semester

Code	Title	Hours
DHYG 135	Dental Materials*	2
DHYG 140	Clinical Dental Hygiene II*	4
DHYG 146	Periodontics*	3
DHYG 148	Dental Health Education*	2
Total Hours		**11**

Summer Semester

Code	Title	Hours
BIOL 235	The Science of Human Nutrition*	3
Humanities Elective ^		3
Total Hours		**6**

Fall Semester

Code	Title	Hours
DHYG 221	Clinical Dental Hygiene III*	6
DHYG 225	General and Oral Pathology*	3
DHYG 232	Pharmacology for the Dental Hygienist*	2
DHYG 234	Local Anesthesia for the Dental Hygienist*	1
Total Hours		**12**

Spring Semester

Code	Title	Hours
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
DHYG 240	Dental Public Health*	2
DHYG 245	Nitrous Oxide Analgesia*	1
DHYG 250	Clinical Dental Hygiene IV*	6
Total Hours		**12**

Total Program Hours: 79

*   This course has registration requirements.

^   See all AAS general education electives (p. 180).

Desktop Publishing

Desktop Publishing Program

Desktop Publishing Applications Specialist Certificate

The desktop publishing certificate is intended for those seeking entry-level positions, as well as for those currently employed, who desire to enhance their job skills. This certificate provides current or prospective employers with tangible evidence of desktop publishing competency, on the part of the certificate completer.

Application courses for the certificate will encourage students to develop a "cross-platform" mastery, which is made possible by offering most on-campus courses in a dual-platform Macintosh and Windows computing environment.

(Major Code 4830; CIP Code 11.0202)

Desktop Publishing Program web page (http://www.jccc.edu/academics/credit/desktop-publishing/)

Certificate Requirements

Prerequisites for Required Courses

Prior to beginning this program students may be required to take the following prerequisite course, take an equivalent transfer course, passed the waiver test, or obtain a waiver from the program administrator.

Code	Title	Hours
CSS 105	Introduction to Personal Computers: Windows	0-1
or CSS 106	Introduction to Personal Computers: Macintosh	
Total Hours		**0-1**

Required Courses

Code	Title	Hours
CSS 138	Operating Systems: Windows*	1
CDTP 155	Desktop Photo Manipulation II: Photoshop*	1
CDTP 160	Desktop Publishing II: InDesign*	1
CDTP 165	Desktop Illustration II: Illustrator*	1
CDTP 168	Desktop Publishing III: InDesign*	1
CDTP 175	Desktop Photo Manipulation III: Photoshop*	1
CDTP 185	Desktop Illustration III: Illustrator*	1
CDTP 190	Applications for Visual Design*	3
or CDTP 135 & CDTP 140 & CDTP 145	Desktop Photo Manipulation I: Photoshop* and Desktop Publishing I: InDesign and Desktop Illustration I: Illustrator	
Program Elective (see below)		4
Total Hours		**14**

Total Program Hours: 14-15

Program Electives

Code	Title	Hours
CSS 108	Word Processing I: MS Word*	1
CSS 110	Spreadsheets I: MS Excel*	1
CSS 111	Spreadsheets II: MS Excel*	1

| CSS 123 | E-Presentation: MS PowerPoint* | 1 |
| CSS 125 | Word Processing II: MS Word* | 1 |

*   This course has registration requirements.

Drafting Technology

Drafting Technology Program

Computer-Aided Drafting and Design Technology, AAS (p. 234)

Computer-Aided Drafting and Design Technology, AAS

Drafting technicians are engineering communication specialists who apply mathematics, computer applications, and manual skills to develop specifications and drawings for the manufacturing and construction of virtually everything made in the world. JCCC's drafting technology program offers students up-to-date equipment in facilities located in the Industrial Training Center on the JCCC campus. In addition, the program offers departmental specialty courses. The program provides students with the skills necessary to produce detailed shop drawings, land plats, erection drawings, and designs for manufacturing, building, production, commercial building, and site construction as well as detailed drawings and designs of components, assemblies, and systems used in manufactured products.

Industrial growth and increasingly complex design problems will greatly increase the demand for design and drafting services, particularly using CAD equipment. Employers are most interested in applicants with drafting and mechanical skills, a background in CAD techniques, and courses in math, science, and engineering technology.

The two-year curriculum enables students to use the latest computer-aided design equipment. Course projects and laboratory procedures are similar to those used in industry.

(Major Code 2220; CIP Code 15.1302)

Drafting Technology Program web page (http://www.jccc.edu/academics/credit/drafting-technology/)

Associate of Applied Science Degree

Prerequisite for Required Courses

Prior to enrolling in CSS 110 and CSS 111 students must take the following prerequisite, or take an equivalent transfer course, or have passed the waiver test, or have obtained a waiver from the program administrator.

Code	Title	Hours
CSS 105	Introduction to Personal Computers: Windows	0-1
or CSS 106	Introduction to Personal Computers: Macintosh	
Note: Students completing CSS 105 or CSS 106 need 4 hours of Technical Electives. Students completing the waiver test need 5 credit hours of Technical Electives.		
Total Hours		**0-1**

First Semester

Code	Title	Hours
CSS 110	Spreadsheets I: MS Excel*	1
CSS 111	Spreadsheets II: MS Excel*	1
DRAF 120	Introduction to Drafting	2
DRAF 123	Interpreting Machine Drawings*	2
DRAF 129	Interpreting Architectural Drawings	2
DRAF 130	Introduction to CAD Concepts - AutoCAD*	3
DRAF 230	Intermediate CAD: AutoCAD*	3
MATH 130	Technical Mathematics I*	3
or MATH 171	College Algebra*	
Total Hours		**17**

Second Semester

Code	Title	Hours
DRAF 135	Graphic Analysis*	3
DRAF 143	Introduction to BIM Building Information Modeling*	2

DRAF 211	Engineering Design Problems*	3
DRAF 243	Advanced BIM: Revit*	2
ENGL 121	Composition I*	3
Humanities Elective ^		3
Total Hours		**16**

Third Semester

Code	Title	Hours
DRAF 145	Introduction to Parametric Design: Inventor*	2
DRAF 225	Civil Drafting*	3
DRAF 245	Advanced Parametric Design: Inventor*	2
DRAF 238	Architectural Design and Drafting*	3
DRAF 244	Civil 3D*	2
ENGL 122	Composition II*	3
or ENGL 123	Technical Writing I*	
Total Hours		**15**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		4-5
Note: Students completing CSS 105 or CSS 106 need 4 hours of Technical Electives. Students completing the waiver test need 5 credit hours of Technical Electives.		
DRAF 222	Mechanical Design and Drafting*	3
DRAF 246	MicroStation for AutoCAD users*	2
DRAF 252	Structural Design and Drafting*	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**15**

Total Program Hours: 64

Program Electives

Code	Title	Hours
CMGT 105	Construction Methods	3
DRAF 142	Exploring Autodesk Fusion 360	2
DRAF 152	3D Modeling with SketchUp	2
DRAF 162	3D Printing	2
DRAF 247	Revit Systems MEP (Mechanical, Electrical, Plumbing)*	2
DRAF 271	Drafting Internship I*	3
DRAF 272	Drafting Internship II*	3

* This course has registration requirements.

^ See all AAS general education electives (p. 180).

Education

Education Program

Early Childhood Education Courses

EDUC 130   Foundations of Early Childhood Education* (3 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This introductory survey course is designed to provide students with current information on topics relevant to employment in early childhood programs. The course explores the historical and philosophical roots of early childhood education, general principles in child development, the teacher's role, values and ethics in early childhood education, curriculum design, and classroom management. Twenty hours of observation in a group childcare setting are required.

EDUC 131   Early Childhood Curriculum I* (3 Hours)
Prerequisites or corequisites: EDUC 130 with a grade of "C" or higher.
This methods course is designed for students who are, or will be, working in an early childhood education setting and parents or others who desire to develop an intellectually challenging environment for young children. The focus of the course is curriculum areas that deal with language and physical development.

EDUC 210   Creative Experiences for Young Children* (3 Hours)
Prerequisites : EDUC 130 with a grade of "C" or higher and PSYC 215.
This course is a study of constructing and maintaining an environment for young children that fosters aesthetic sensitivity and creativity. The course includes the young child's developmental stages in art, music, movement, creative movement and creative drama. Methods and materials for this course cover developmentally appropriate creative experiences; inclusive, anti-bias curriculum; integration of creative experiences throughout the curriculum; use of technology; and helping families understand the creative experience.

EDUC 220   Survey of the Exceptional Child* (3 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This course is an overview of the field of special education geared to those who are preparing to work with children and youths with special needs. The course provides fundamental information on the identification and exceptionality, laws and legal cases affecting the delivery of services to individuals with exceptionalities, and the principles of effective educational approaches for each exceptionality. Categories of exceptionality presented include learning disabilities, behavior disorders, gifted and talented, communication disorders, autism, traumatic brain injury, physical disabilities, sensory impairments, other health impairments, and multiple and severe disabilities.

EDUC 231   Early Childhood Curriculum II* (3 Hours)
Prerequisites or corequisites: EDUC 130 with a grade of "C" or higher.
This methods course is designed for students who are, or will be, working in an early childhood education setting and parents or others who desire to develop an intellectually challenging environment for young children. The focus of the course is on curriculum areas that deal with the physical and social aspects of the world. Included in this inquiry curriculum are mathematics, science, social studies and nutrition.

EDUC 234   Families in Society* (3 Hours)
Prerequisites or corequisites: PSYC 215.
This course is a study of effective relationships between families and the larger society. The course is designed for teachers and families who desire to provide an environment that reflects sensitivity to the unique needs of the individual child/adolescent and their families. Topics covered during the course are family dynamics, child and adolescent development, supporting positive relationships and behaviors, and effective communication and guidance strategies, as well as building and advocating for effective, collaborative relationships between teachers, families and communities.

EDUC 250   Child Health, Safety and Nutrition* (3 Hours)
Prerequisites : (RDG 096 or RDG 126) or College Reading Readiness.
This course is a study of the basic health, nutrition and safety management practices for young children. Information on establishing and maintaining a physically and psychologically safe and healthy learning environment appropriate for the needs of young children will be included. The interrelation of health, safety and nutrition is stressed, with emphasis on appraisal procedures, prevention and protection, services and educational experiences for young children and their families.

EDUC 260   Observing and Interacting with Young Children* (3 Hours)
Prerequisites : EDUC 130 with a grade of "C" or higher.
Prerequisites or corequisites: PSYC 215.
This course is a study of the role of observation to assess and monitor the development and learning of, and the appropriate techniques for interacting with, young children. Included will be the purposes and types of observation procedures, interpretation and use of findings, reporting techniques, and legal and ethical responsibilities. Expected age-related child behavior, fundamental principles of and theoretical approaches to child guidance, guidance techniques, working with families and issues of diversity are also presented. The laboratory will include demonstration of the subject matter.

EDUC 285   Student Teaching: Early Childhood Education* (3 Hours)
Prerequisites : EDUC 130 with a grade of "C" or higher and EDUC 250 with a grade of "C" or higher and EDUC 260 with a grade of "C" or higher.
This course will focus on the field experience of early childhood education students allowing them to apply their knowledge of teaching young children in a supervised setting. The student lab experience will occur in two different early childhood settings, with children of varying age groups. The course will also include a lecture/seminar component focused on practical application of student teaching experiences, as well as the development of a student teaching portfolio.

PSYC 130   Introduction to Psychology (3 Hours)
This basic introduction to psychology includes the study of biological aspects of behavior, the brain, consciousness, sensation and perception, motivation and emotion, stress, maturation and development, learning and memory, normal and abnormal personality, and social psychology. This course is the prerequisite for all advanced-level psychology courses.

PSYC 215   Child Development* (3 Hours)
Prerequisites : PSYC 130.
This course is a comprehensive account of human development from conception through adolescence. The course integrates genetic, biological, physical and anthropological influences with psychological processes and explores determinants of behavior from a genetic and environmental perspective.

Elementary Education, AA

The transfer degree provides a pathway from any Kansas public community college offering the degree to any Kansas public university for individuals desiring to become licensed as a PK-6 elementary teacher. The pathway identifies courses/credit hours to be taken at the community college level and reflects the Kansas Board of Regents (KBOR) General Education framework and recommended education coursework.
These courses/credit hours transfer to any KBOR university as the first sixty hours toward a 120-hour PK-6 Elementary Education program degree. The remaining sixty hours at KBOR universities are the required courses to complete the PK-6 Elementary Education degree.

(Major Code 2000; CIP Code: 13.1201)

Education Program web page (https://www.jccc.edu/academics/credit/education/)

Associate of Arts Degree

First Semester

Code	Title	Hours
EDUC 121	Introduction to Teaching*	3
ENGL 121	Composition I*	3
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
HIST 140	U.S. History to 1877	3
or HIST 141	U.S. History Since 1877	
PSYC 130	Introduction to Psychology	3
Total Hours		**15**

Second Semester

Code	Title	Hours
Social and Behavioral Sciences Elective ^		3
Pick a course from Anthropology (ANTH), Economics (ECON), Geography (GEOS), Political Science (POLS), or Sociology (SOC).		
ENGL 122	Composition II*	3
MATH 165	Finite Mathematics*	3
or MATH 171	College Algebra*	
or MATH 181	Statistics*	
MUS 124	Basic Music for the Elementary Classroom	2-3
or HPER 245	Health and Physical Education for the Elementary Classroom Teacher	
PHYS 130	College Physics I*	4-5
or PSCI 120	Physical Science	
Total Hours		**15-17**

Third Semester

Code	Title	Hours
Life Science Elective (see below) %		4-5
EDUC 220	Survey of the Exceptional Child*	3
ENGL 232	Children's Literature*	3
POLS 124	American National Government	3
PSYC 218	Human Development*	3
Total Hours		**16-17**

Fourth Semester

Code	Title	Hours
Arts and Humanities Elective ^		3
Pick a course from Art History (ARTH), English Literature (ENGL), Music (MUS), or Theater (THEA).		
KS Systemwide Elementary Education General Education Options (see below)		3
KS Systemwide Transfer Elective (see below)		2-3
EDUC 224	Technology in Education for K-12 Educators	3
EDUC 130	Foundations of Early Childhood Education*	3
or EDUC 221	Diversity, Equity and Inclusion for K-12 Educators	
or EDUC 234	Families in Society*	
or EDUC 250	Child Health, Safety and Nutrition*	
or PSYC 215	Child Development*	
or PSYC 225	Educational Psychology*	
Total Hours		**14-15**

Total Program Hours: 60

Life Science

Code	Title	Hours
Biology		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230 & BIOL 231	Microbiology* and Microbiology Lab*	5
Environmental Science		
EVRN 130 & EVRN 131	Environmental Science and Environmental Science Lab*	4

KS Systemwide Elementary Education General Education Options

Code	Title	Hours
Anthroploogy		
ANTH 125	Cultural Anthropology	3
ANTH 126	Physical Anthropology	3
ANTH 130	World Cultures	3
ANTH 142	World Prehistory	3
ANTH 165	Linguistic Anthropology	3
Art History		

ARTH 180	Art History: Ancient to Medieval	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society	3
Biology		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140	Human Anatomy	4
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 161	Introduction to Biotechnology	4
BIOL 225	Human Physiology*	4
BIOL 230	Microbiology*	3
BIOL 231	Microbiology Lab*	2
Communication Studies		
COMS 120	Interpersonal Communication	3
COMS 121	Public Speaking	3
Economics		
ECON 132	Survey of Economics	3
ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3
English (Writing)		
ENGL 130	Introduction to Literature*	3
ENGL 214	Environmental Literature*	3
ENGL 215	U.S. Latino and Latina Literature*	3
ENGL 217	Literature by Women*	3
ENGL 227	Introduction to Poetry*	3
ENGL 230	Introduction to Fiction*	3
ENGL 235	Drama as Literature*	3
ENGL 236	British Literature to 1800*	3
ENGL 237	British Literature after 1800*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3
ENGL 254	Masterpieces of the Cinema*	3
Environmental Science		
EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1
Geoscience		
GEOS 145	World Regional Geography	3
GEOS 155	Human Geography	3
Mathematics		
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 181	Statistics*	3
Music		
MUS 121	Introduction to Music Listening	3
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3

Political Science

POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government	3
POLS 135	International Relations	3
POLS 175	Environmental Policy and Law	3
POLS 192	Political Theory	3
POLS 200	Model United Nations	3
POLS 220	Introduction to Public Policy	3
POLS 245	Introduction to Public Administration	3
Sociology		
SOC 122	Introduction to Sociology	3
SOC 125	Social Problems	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare	3
Theater		
THEA 120	Introduction to Theater	3

KS Systemwide Transfer Courses

Code	Title	Hours
Accounting		
ACCT 121 & ACCT 122	Accounting I and Accounting II*	6
Anthropology		
ANTH 125	Cultural Anthropology	3
ANTH 165	Linguistic Anthropology	3
Art		
ART 124	Design 2D	3
ART 127	Design 3D*	3
ART 130	Drawing I	3
Art History		
ARTH 180	Art History: Ancient to Medieval	3
ARTH 182	Art History: Renaissance to Modern	3
Astronomy		
ASTR 120	Fundamentals of Astronomy	3
ASTR 122	Astronomy	4
Biology		
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 135	Principles of Cell and Molecular Biology	4
BIOL 140 & BIOL 225	Human Anatomy and Human Physiology*	8
BIOL 144	Human Anatomy and Physiology*	5
BIOL 150	Biology of Organisms*	5
BIOL 230 & BIOL 231	Microbiology* and Microbiology Lab*	5
BIOL 235	The Science of Human Nutrition*	3
Business Law		
BLAW 261	Business Law I*	3
Business		
BUS 121	Introduction to Business	3
BUS 123	Personal Finance	3
BUS 241	Principles of Management	3

Chemistry

CHEM 120	Chemistry in Society*	4
CHEM 122	Principles of Chemistry*	5
CHEM 124 & CHEM 125	General Chemistry I Lecture* and General Chemistry I Lab*	5
CHEM 131 & CHEM 132	General Chemistry II Lecture* and General Chemistry II Lab*	5

Computer Support Specialist

CSS 128	PC Applications: MS Office	3

Criminal Justice

CJ 121	Introduction to Criminal Justice System	3
CJ 141	Criminal Law	3

Communication Studies

COMS 120	Interpersonal Communication	3
COMS 121	Public Speaking	3

Dietary Managers

DIET 151	Nutrition and Meal Planning	3

Economics

ECON 230	Principles of Macroeconomics	3
ECON 231	Principles of Microeconomics	3

Education

EDUC 121	Introduction to Teaching*	3
EDUC 130	Foundations of Early Childhood Education*	3
EDUC 220	Survey of the Exceptional Child*	3
EDUC 224	Technology in Education for K-12 Educators	3

English

ENGL 121	Composition I*	3
ENGL 122	Composition II*	3
ENGL 130	Introduction to Literature*	3
ENGL 223	Introduction to Creative Writing*	3
ENGL 232	Children's Literature*	3
ENGL 246	American Literature I*	3
ENGL 247	American Literature II*	3

Environmental Science

EVRN 130	Environmental Science	3
EVRN 131	Environmental Science Lab*	1

Foreign Language

FL 130	Elementary Spanish I	5
FL 131	Elementary Spanish II*	5
FL 140	Elementary French I	5
FL 141	Elementary French II*	5
FL 230	Intermediate Spanish I*	3

Geoscience

GEOS 130	General Geology	5
GEOS 145	World Regional Geography	3

Health Care

HC 130	Medical Terminology for Healthcare Professions	3

History

HIST 140	U.S. History to 1877	3
HIST 141	U.S. History Since 1877	3
HIST 151	World History: Traditional	3
HIST 152	World History: Modern World	3

Physical Education, Health & Recreation		
HPER 200	First Aid and CPR	2
HPER 202	Personal Community Health	3
HPER 204	Care and Prevention of Athletic Injury	3
HPER 215	Introduction to Exercise Science	3
HPER 245	Health and Physical Education for the Elementary Classroom Teacher	3
Jouralism		
JOUR 120	Mass Media and Society	3
Leadership		
LEAD 130	Leadership & Civic Engagement	3
Mathmatics		
MATH 116	Intermediate Algebra*	3
MATH 165	Finite Mathematics*	3
MATH 171	College Algebra*	3
MATH 172	Trigonometry*	3
MATH 181	Statistics*	3
MATH 231	Business and Applied Calculus I*	3
MATH 241	Calculus I*	5
Marketing		
MKT 230	Marketing	3
Music		
MUS 121	Introduction to Music Listening	3
MUS 124	Basic Music for the Elementary Classroom	2
MUS 141	Music Theory: Harmony I	3
MUS 142	Music Theory: Harmony II*	3
MUS 221	Piano Class I	2
MUS 222	Piano Class II*	2
Philosophy		
PHIL 121	Introduction to Philosophy	3
PHIL 124	Logic and Critical Thinking	3
PHIL 143	Ethics	3
Physics		
PHYS 130	College Physics I*	5
PHYS 131	College Physics II*	5
PHYS 220	Engineering Physics I*	5
PHYS 221	Engineering Physics II*	5
Political Science		
POLS 122	Political Science	3
POLS 124	American National Government	3
POLS 126	State and Local Government	3
POLS 132	Introduction to Comparative Government	3
POLS 135	International Relations	3
Physical Science		
PSCI 120	Physical Science	4
Psychology		
PSYC 130	Introduction to Psychology	3
PSYC 215	Child Development*	3
PSYC 218	Human Development*	3
Religion		
REL 120	Exploring World Religions	3
Sociology		
SOC 122	Introduction to Sociology	3

SOC 125	Social Problems	3
SOC 131	Sociology of Families	3
SOC 146	Introduction to Social Work and Social Welfare	3
Theater		
THEA 120	Introduction to Theater	3
THEA 130	Acting I*	3
THEA 131	Voice and Speech	3
THEA 133	Technical Practicum I	1
THEA 140	Basic Stagecraft	3
THEA 230	Acting II*	3
THEA 233	Technical Practicum II*	1
Women and Gender Studies		
WGS 201	Global Women's Studies	3

*   This course has registration requirements.

^   See all AA general education electives. (p. 136)

%   Lab science course required.

Electrical Technology

Electrical Technology Program

Electrical Technology, AAS

The use of electrical technology in residential, commercial, and industrial applications continues to grow. Electricians install and maintain electrical systems for a variety of purposes, including lighting, appliances, industrial control, security, and communications.

The Electrical Technology Certificate (p. 246) is a 30-credit-hour program that can be completed in two semesters. Designed to give students the basic skills to gain entry-level employment as a residential or commercial electrician, the curriculum emphasizes hands-on training integrated with knowledge of theory and study of the National Electrical Code. As a requirement for completion, students will sit for their local licensure exam.

After attainment of the certificate, students can complete advanced studies toward the Electrical Technology Associate of Applied Science. Totaling 60 credit hours, this program prepares students to work in the electrical trade in estimating, industrial power and control, and solar photovoltaic installation.

(Major Code 2260; CIP Code 46.0302)

Electrical Technology Program web page (http://www.jccc.edu/academics/credit/electrical-technology/)

Associate of Applied Science Degree

Fall Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
ELTE 110	AC/DC Circuits	4
ELTE 115	Print Reading	2
ELTE 122	National Electrical Code I	4
ELTE 125	Residential Wiring*	4
Total Hours		**15**

Spring Semester

Code	Title	Hours
CMGT 100	Industrial Safety/OSHA-30	3
ELTE 175	Low Voltage Wiring*	3
ELTE 200	Commercial Wiring*	4
ELTE 222	National Electrical Code II*	4
ELTE 223	Electrical Certification Review*	1
Total Hours		**15**

Note: Students are eligible for the Electrical Technology Certificate upon completion of the first two semesters.

Fall Semester

Code	Title	Hours
ELTE 202	Electrical Estimating*	3
ELTE 220	Heavy Commercial Wiring*	3
ENGL 121	Composition I*	3
MATH 130	Technical Mathematics I* (or higher)	3
Humanities Elective ^		3
Total Hours		**15**

Spring Semester

Code	Title	Hours
Program Elective (see below)		3
ELTE 230	Industrial Wiring*	3
ELTE 250	Industrial Motor Applications*	3
MATH 131	Technical Mathematics II* (or higher)	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**15**

Total Program Hours: 60

Program Electives

Code	Title	Hours
AET 160	Programmable Logic Controllers I*	3
CMGT 105	Construction Methods	3
DRAF 120	Introduction to Drafting	2
DRAF 130	Introduction to CAD Concepts - AutoCAD*	3
DRAF 132	Exploring AutoCAD	3
DRAF 230	Intermediate CAD: AutoCAD*	3
ELTE 211	Solar Electric Systems*	3
ELTE 270	Electrical Internship*	1-3

*   This course has registration requirements.

^   See all AAS general education electives (p. 180)

Electrical Technology Certificate

The use of electrical technology in residential, commercial and industrial applications continues to grow rapidly. Electricians install and maintain electrical systems for a variety of purposes, including lighting, appliances, industrial control, security and communications.

The Electrical Technology Certificate is a 30 credit-hour program that is completed in two semesters. Designed to give students the basic skills to gain entry-level employment as a residential or commercial electrician, the curriculum emphasizes hands-on training integrated with knowledge of theory and study of the National Electrical Code. As a requirement for completion, students will sit for their local licensure exam.

After attainment of the certificate, students can complete advanced studies toward the Electrical Technology Associate of Applied Science (p. 244) which prepares students to work in the electrical trade in estimating, industrial power and control, and solar photovoltaic installation.

(Major Code 5110; CIP Code 46.0302)

Electrical Technology Program web page (http://www.jccc.edu/academics/credit/electrical-technology/)

Certificate Requirements

Fall Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
ELTE 110	AC/DC Circuits	4
ELTE 115	Print Reading	2
ELTE 122	National Electrical Code I	4
ELTE 125	Residential Wiring*	4
Total Hours		**15**

Spring Semester

Code	Title	Hours
CMGT 100	Industrial Safety/OSHA-30	3
ELTE 175	Low Voltage Wiring*	3
ELTE 200	Commercial Wiring*	4
ELTE 222	National Electrical Code II*	4
ELTE 223	Electrical Certification Review*	1
Total Hours		**15**

Total Program Hours: 30

*   This course has registration requirements.

Electronics Technology

Electronics Technology Program

Electronics Technology Certificate

Electronic technology influences almost every aspect of modern life. Skilled electronics technicians are needed to support growth in this industry. Electronics technicians fabricate, test, install, operate, troubleshoot, and maintain highly technical systems such as communications systems, computers, and computer networks, industrial process control systems, avionics, biomedical electronics, and photonics systems.

This certificate is designed to prepare the student for entry into the electronics field as an apprentice electronics technician. The program provides education in the basic information and skills necessary to perform the assigned duties of an apprentice electronics technician safely and professionally.

Students will work with excellent facilities and some of the latest laboratory equipment.

Completers of the certificate will have the opportunity for employment in one of today's most challenging and exciting career fields. Certificate completers may also earn an Associate of Applied Science in Electronics (p. 248) by taking two additional semesters of Electronics Technology coursework.

(Major Code 6220; CIP Code 47.0101)

Electronics Technology Program web page (http://www.jccc.edu/academics/credit/electronics-technology/)

Certificate Requirements

First Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
ELEC 120	Introduction to Electronics	3
ELEC 125	Digital Electronics I	4
ELEC 134	DC Circuits*	4
MATH 130	Technical Mathematics I*	3
Total Hours		**15**

Second Semester

Code	Title	Hours
CS 134	Programming Fundamentals	4
ELEC 186	CompTIA A+ Core 1	3
ELEC 227	Digital Electronics II*	4
ELEC 234	AC Circuits*	4
MATH 131	Technical Mathematics II*	3
Total Hours		**18**

Total Program Hours: 33

*   This course has registration requirements.

Electronics Technology, AAS

Electronics technology influences almost every aspect of modern life. Skilled electronics technicians are needed to support growth in this industry. These technicians fabricate, test, install, operate, troubleshoot, and maintain highly technical systems such as communications systems, computers and computer networks, industrial process control systems, avionics, biomedical electronics, and photonics systems.

The program focuses on the underlying principles of electronic devices, circuit analysis, and digital electronics and will provide a broad systems view of electronics. Students in the electronics program work with excellent facilities that include some of the latest laboratory equipment.

Graduates of the program will have the opportunity for employment in one of today's most challenging and exciting career fields.

(Major Code 2690; CIP Code 47.0101)

Electronics Technology Program web page (http://www.jccc.edu/academics/credit/electronics-technology/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
ELEC 120	Introduction to Electronics	3
ELEC 125	Digital Electronics I	4
ELEC 134	DC Circuits*	4
MATH 130	Technical Mathematics I*	3
Total Hours		**15**

Second Semester

Code	Title	Hours
CS 134	Programming Fundamentals	4
ELEC 186	CompTIA A+ Core 1	3
ELEC 227	Digital Electronics II*	4
ELEC 234	AC Circuits*	4
MATH 131	Technical Mathematics II*	3
Total Hours		**18**

Third Semester

Code	Title	Hours
Program Elective (see below)		3
ELEC 235	Digital Systems and Applications*	4
ELEC 236	Semiconductor Devices*	4
ENGL 121	Composition I*	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**17**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		6
ELEC 240	Electronic Communication Systems*	4
HPER 200	First Aid and CPR	2
Humanities Elective^		3
Total Hours		**15**

Total Program Hours: 65

Program Electives

Code	Title	Hours
AET 140	Actuator and Sensor Systems*	3
AET 160	Programmable Logic Controllers I*	3
AET 185	LAN Cabling and Installation	3
AET 240	Industrial Robotics*	3
BIOL 144	Human Anatomy and Physiology*	5
COLL 150	Job Search Skills	1
CS 200	Concepts of Programming Algorithms Using C++*	4
CS 201	Concepts of Programming Algorithms using C#*	4
CS 205	Concepts of Programming Algorithms using Java*	4
ELEC 212	Fundamentals of Light and Lasers*	3
ELEC 251	Laser Systems and Applications*	3
ELEC 252	Specialized Lasers and System Integration*	3
ELEC 271	Electronics Internship*	1
ENGL 123	Technical Writing I*	3
HC 130	Medical Terminology for Healthcare Professions	3
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Emergency Medical Science

Emergency Medical Science Programs

Emergency Medical Responder Certificate (p. 250)

Emergency Medical Technician Certificate (p. 252)

Paramedic Certificate (p. 253)

Emergency Medical Science, AAS (p. 251)

Emergency Medical Responder Certificate

The primary focus of the Emergency Medical Responder (EMR) is to initiate immediate lifesaving care at the scene of an emergency for ill or injured patients. This individual possesses the basic knowledge and skills necessary to provide lifesaving interventions while awaiting additional EMS response and to assist higher-level personnel at the scene and during transport. Emergency Medical Responders function as part of a comprehensive EMS response, under medical oversight. Emergency Medical Responders perform basic interventions with minimal equipment.

The Emergency Medical Responder's scope of practice includes simple skills focused on lifesaving interventions for critical patients. Typically, the Emergency Medical Responder renders on-scene emergency care while awaiting additional EMS response and may serve as part of the transporting crew, but not as the primary caregiver.

In many communities, Emergency Medical Responders provide a mechanism to increase the likelihood that trained personnel and lifesaving equipment can be rapidly deployed to serious emergencies. In all cases, Emergency Medical Responders are part of a tiered response system. Emergency Medical Responders work alongside other EMS and health care professionals as an integral part of the emergency care team.

The Emergency Medical Responder's scope of practice includes simple, non-invasive interventions to reduce the morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies. Emergency care is based on assessment findings. Additionally, the Emergency Medical Responder provides care designed to minimize secondary injury and comfort the patient and family while awaiting additional EMS resources.

(Major Code 3550; CIP Code 51.0810)

Emergency Medical Science Program web page (http://www.jccc.edu/academics/credit/emergency-medical-science/)

Certificate Requirements

Semester Coursework

Code	Title	Hours
EMS 129	Emergency Medical Responder*	6
	Total Program Hours: 6	

*   This course has registration requirements.

Emergency Medical Science, AAS

The Emergency Medical Science - Paramedic program consists of four courses, including a clinical rotation in a hospital setting and a field internship with an ambulance service. Students learn emergency procedures such as cardiac monitoring and defibrillation and the administration of medications and IV fluids. Successful completion of this program and subsequent credential exams will enable graduates to work as skilled paramedics and to provide sophisticated, advanced pre-hospital life support. The total program hours necessary to complete the associate of applied science degree include 15 credit hours of general education requirements.

JCCC's Paramedic program is accredited by the Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP).

This is a selective admission program with limited enrollment. Applicants must be an EMT or eligible for their license and complete the required general education coursework prior to acceptance into the program. Students in the program take classes in the spring, summer, and fall with program completion in December.

Students successfully completing this program with a "C" or higher in required EMS coursework will be allowed to sit for the credential examinations administered by the Kansas Board of Emergency Medical Services.

(Major Code 248A; CIP Code 51.0904)

Emergency Medical Science Program web page (http://www.jccc.edu/academics/credit/emergency-medical-science/)

Associate of Applied Science Degree

General Education Requirements

Code	Title	Hours
BIOL 144	Human Anatomy and Physiology*	5
Note: BIOL 140 and BIOL 225 will fulfill BIOL 144 and Science and/or Math Elective requirements.		
ENGL 121	Composition I*	3
Humanities Elective ^		3
Science and/or Math Elective ^		3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**17**

Spring Semester

Code	Title	Hours
EMS 220	Medic I*	10
EMS 225	Medic II*	10
Total Hours		**20**

Summer Semester

Code	Title	Hours
EMS 230	Medic III Clinicals*	12
Total Hours		**12**

Fall Semester

Code	Title	Hours
EMS 271	Medic IV Field Internship*	15
Total Hours		**15**

Total Program Hours: 64

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Emergency Medical Technician Certificate

This certificate program is designed for individuals interested in providing medical care to patients in the pre-hospital setting and prepares the student to enter the workforce as a trained and certified Emergency Medical Technician. Successful graduates of this Kansas Board of Emergency Medical Services (BEMS) course are eligible to take Kansas State and national credential examinations. Students completing this course with a minimum grade of "C" will be allowed to sit for the Kansas EMT State credential examination and receive JCCC certificate of completion.

(Major Code 4760; CIP 51.0904)

Emergency Medical Science Program web page (http://www.jccc.edu/academics/credit/emergency-medical-science/)

Certificate Requirements

Semester Coursework

Code	Title	Hours
EMS 132	Emergency Medical Technician*	12

Total Program Hours: 12

Paramedic Certificate

This advanced emergency medical care program consists of four courses, including a clinical rotation in a hospital setting and a field internship with an ambulance service. You learn emergency procedures such as cardiac monitoring and defibrillation and the administration of medications and IV fluids. Successful completion of this program and subsequent certification exams will enable graduates to work as skilled paramedics and to provide sophisticated, advanced pre-hospital life support.

JCCC's Paramedic program is fully accredited by the Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP). For more information, see the Paramedic Admissions Process web page (https://www.jccc.edu/academics/credit/emergency-medical-science/ems-admission-process.html). The information packet, which includes deadlines, admission requirements, and options for meeting academic criteria is available year-round and updated annually. The application and attachments are only available during the application period, which opens on **June 1** and closes on **October 1** each year.

This is a selective admission program with limited enrollment. If you are accepted into the program, you take classes in the spring, summer, and fall, completing the program in December.

(Major Code 534A; CIP Code 51.0904)

Emergency Medical Science Program web page (http://www.jccc.edu/academics/credit/emergency-medical-science/)

Certificate Requirements

Spring Semester

Code	Title	Hours
EMS 220	Medic I*	10
EMS 225	Medic II*	10
Total Hours		**20**

Summer Semester

Code	Title	Hours
EMS 230	Medic III Clinicals*	12
Total Hours		**12**

Fall Semester

Code	Title	Hours
EMS 271	Medic IV Field Internship*	15
Total Hours		**15**

Total Program Hours: 47

* This course has registration requirements.

Fashion Merchandising and Design

Fashion Merchandising and Design Programs

Apparel Design and Technology, AAS (p. 256)

Visual Merchandising Certificate (p. 258)

Fashion Merchandising and Marketing, AAS (p. 254)

Fashion Merchandising and Marketing, AAS

Students that pursue an AAS in Fashion Merchandising and Marketing will study the whole supply chain from manufacturing and buying to promoting and selling of fashion products. The program prepares students for a rewarding career in the fashion industry by developing both the creative fashion skills and analytical problem-solving abilities required for success in the industry.

The fashion merchandising and marketing related fields are rapidly changing. We have seen a significant shift in the way that people shop and buy merchandise and the industry continues to adjust to meet the needs of the consumer. JCCC's Fashion Merchandising and Design department prides itself on updating course materials and student learning outcomes to align with the current industry. Graduates of JCCC's Fashion Merchandising and Marketing AAS degree program are well-prepared with current skills in assortment planning, store layout, visual display, management, marketing, branding as well as digital skills related to social media and online retailing.

Through collaboration and teamwork, JCCC's graduates learn about the industry from highly skilled faculty with many years of experience. Required internships give students industry-related job experiences and help to build lasting business partnerships. Travel for credit and study abroad programs provide invaluable experiential learning opportunities that students can add to their academic resume and portfolio.

Whether your goals are to obtain an entry-level position or to further your education at a 4-year institution, you will be prepared for success and have a solid foundation with a Fashion Merchandising and Marketing AAS degree from JCCC.

Students must complete all FASH courses with a "C" or higher to be awarded the AAS degree and certificate.

(Major Code 3120; CIP Code 52.1902)

Fashion Merchandising & Design Program web page (http://www.jccc.edu/academics/credit/fashion-merchandising-design/)

Associate of Applied Science Degree

Fall Semester

Code	Title	Hours
ENGL 121	Composition I*	3
FASH 121	Fashion Fundamentals	3
FASH 122	Aesthetics for Merchandising and Design	3
FASH 125	Visual Merchandising	3
Communications Elective ^		3
NOTE: COMS 121 is Recommended		
Total Hours		**15**

Spring Semester

Code	Title	Hours
FASH 150	Textiles for Fashion	3
FASH 225	Store Planning*	3
FASH 277	Fashion Seminar: Career Options	2
or FASH 268	Field Study: The Market Center*	
FASH 282	Fashion Internship	1
MATH 120	Business Mathematics* (or higher)	3
MKT 121	Retail Management	3

or MKT 134	Professional Selling	
Total Hours		**15**

Summer Semester

Code	Title	Hours
Humanities Elective ^		3
Total Hours		**3**

Fall Semester

Code	Title	Hours
ECON 132	Survey of Economics	3
or ECON 230	Principles of Macroeconomics	
FASH 242	Product Knowledge for Merchandisers	3
FASH 282	Fashion Internship	1
MKT 146	Introduction to Social Media Marketing	3
MKT 230	Marketing	3
MKT 275	Marketing Analytics and CRM (Customer Relationship Management)	3
Total Hours		**16**

Spring Semester

Code	Title	Hours
FASH 224	History of Costume	3
FASH 231	Merchandising Planning and Control*	3
FASH 235	Online Retailing	3
FASH 282	Fashion Internship	1
or FASH 215	Field Study: MAGIC Trade Show*	
FASH 295	Capstone: Merchandising and Marketing*	3
MKT 202	Consumer Behavior	3
Total Hours		**16**

Total Program Hours: 65

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Apparel Design and Technology, AAS

Students that pursue an Associate of Applied Science degree in Apparel Design and Technology will study the creative process from concept through to production using industry-standard technology solutions. The program prepares students for a rewarding career in the fashion industry by developing both the creative fashion skills and analytical problem-solving abilities required for success in the industry.

JCCC's Fashion Merchandising and Design department prides itself on updating course materials and student learning outcomes to align with the current industry.   Graduates of JCCC's Apparel Design and Technology, AAS degree program are well-prepared with skills in garment construction, technical drawing, patternmaking, draping, fit analysis and garment specifications. The Apparel Design and Technology program features the integration of industry-standard technology solutions such as Adobe Photoshop, Adobe Illustrator, Gerber Accumark and Gerber Yunique PLM throughout the curriculum.

Apparel Design and Technology graduates are challenged to create and develop a collection of original designs for the annual FM&D fashion show. Participation in the annual fashion show provides students with opportunities for industry networking while at the same time developing content for their digital portfolios. Required internships give students industry-related job experiences and help to build lasting business partnerships. Travel for credit and study abroad programs provide invaluable experiential learning opportunities that students can add to their academic resume and portfolio.

Whether your goals are to obtain an entry-level position or to further your education at a 4-year design school, you will be prepared for success and have a solid foundation with an Apparel Design and Technology, AAS degree from JCCC.

Students must complete all FASH courses with a "C" or higher to be awarded the AAS degree.

(Major Code 2950; CIP Code 50.0407)

Fashion Merchandising & Design Program web page (http://www.jccc.edu/academics/credit/fashion-merchandising-design/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
FASH 121	Fashion Fundamentals	3
FASH 122	Aesthetics for Merchandising and Design	3
FASH 123	Apparel Construction I	4
ENGL 121	Composition I*	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**16**

Second Semester

Code	Title	Hours
FASH 124	Apparel Construction II*	4
FASH 130	Fashion Drawing	3
FASH 131	Flat Pattern Development*	4
FASH 133	Computer Aided Apparel Design	3
FASH 150	Textiles for Fashion	3
Total Hours		**17**

Summer Semester

Code	Title	Hours
Communications Elective ^		3
Total Hours		**3**

Third Semester

Code	Title	Hours
FASH 180	Draping*	3
FASH 190	Apparel Fit, Alterations and Analysis*	3
FASH 224	History of Costume	3
FASH 270	Apparel Product Development*	3

FASH 282	Fashion Internship	1
Humanities Electives ^		3
Total Hours		**16**

Fourth Semester

Code	Title	Hours
FASH 127	Advanced Patternmaking*	4
FASH 255	Apparel Specification Technology*	3
FASH 282	Fashion Internship	1
FASH 297	Capstone: Apparel Design and Technology*	4
Social and Behavioral and Sciences Elective ^		3
Total Hours		**15**

Total Program Hours: 67

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Visual Merchandising Certificate

Students who pursue a Visual Merchandising Certificate will study the importance of visual merchandising and its impact on the success of the retailer. Through analysis of the store layout, lighting, fixtures, props, windows, and in-store displays, students learn the importance of the customer retail experience. Students will learn how to create effective visual displays to promote products and increase retail sales. This certificate prepares students for an entry-level position in retail visual merchandising while at the same time creating a seamless pathway into the Fashion Merchandising and Marketing, AAS (p. 254) degree program.

Students must complete all FASH courses with a "C" or higher to be awarded this certificate.

(Major Code 7200; CIP Code 52.1902)

Fashion Merchandising & Design Program web page (http://www.jccc.edu/academics/credit/fashion-merchandising-design/)

Certificate Requirements

Fall Semester

Code	Title	Hours
FASH 121	Fashion Fundamentals	3
FASH 122	Aesthetics for Merchandising and Design	3
FASH 125	Visual Merchandising	3
MKT 121	Retail Management	3
or MKT 134	Professional Selling	
Total Hours		**12**

Spring Semester

Code	Title	Hours
Fashion Elective (see below)		3
FASH 225	Store Planning*	3
FASH 242	Product Knowledge for Merchandisers	3
FASH 277	Fashion Seminar: Career Options	2
FASH 282	Fashion Internship	1
Total Hours		**12**

Total Program Hours: 24

Program Electives

Code	Title	Hours
FASH 123	Apparel Construction I	4
FASH 130	Fashion Drawing	3
FASH 133	Computer Aided Apparel Design	3
FASH 150	Textiles for Fashion	3
FASH 215	Field Study: MAGIC Trade Show*	1
FASH 224	History of Costume	3
FASH 268	Field Study: The Market Center*	3

* This course has registration requirements.

Fine Arts

Fine Arts Program

Associate of Fine Arts (p. 259)

Associate of Fine Arts

An Associate of Fine Arts degree provides students with a broad range of courses that can be transferred to degree programs at a four-year college or university. This degree provides students with exposure to many different subjects and perspectives including art, art history, animation, computer design, film and media studies, music, photography, and theater. It requires a minimum of 60 college-level credit hours, with a minimum of 34 hours of general education requirements and 26 hours of electives. Many students choose to earn an Associate of Fine Arts degree before transferring to a four-year college or university. (*See sample degree program plan below.*)

Important: Students graduating with an associate of arts degree must complete an **approved cultural diversity** course. Some of the approved courses can meet both the cultural diversity requirement and a general education requirement. A list of **approved cultural diversity courses** can be found with the list of AFA degree requirements (p. 148).

Fine Arts program web page (https://www.jccc.edu/academics/credit/fine-arts/)

(Major Code 1020; CIP Code 24.0101)

Associate of Fine Arts Degree

First Semester

Code	Title	Hours
AFA Elective (see below)		6
ENGL 121	Composition I*	3
Arts and Humanities Elective ^		3
Math and Statistics Elective ^		3
Total Hours		**15**

Second Semester

Code	Title	Hours
AFA Elective (see below)		6
ENGL 122	Composition II*	3
Communications Elective ^		3
Social and Behavioral and Sciences Elective		3
Total Hours		**15**

Third Semester

Code	Title	Hours
AFA Elective (see below)		6
Natural and Physical Sciences Elective ^		4-5
Arts and Humanities Elective ^		3
Cavalier Credit #		3
Total Hours		**16**

Fourth Semester

Code	Title	Hours
AFA Elective (see below)		8
Social and Behavioral and Sciences Elective		3

Cavalier Credit [#]		3
Total Hours		**14**

Total Program Hours: 60

AFA Electives

Code	Title	Hours
Requires the completion of 25-26 additional credit hours to be selected from the list of AFA elective options.		
Animation		
ANI 122	Digital Rendering for Animation	3
ANI 125	Introduction to 2D Animation	3
ANI 130	Motion Graphics and Effects*	3
ANI 150	Introduction to 3D Modeling, Texturing and Materials	3
Art History		
ARTH 135	American Indian Art	3
ARTH 180	Art History: Ancient to Medieval	3
ARTH 182	Art History: Renaissance to Modern	3
ARTH 184	Art History: Twentieth Century	3
ARTH 186	Art History: Introduction to Asian Art	3
ARTH 188	History of Photography	3
ARTH 200	Women, Art, and Society	3
ARTH 292	Special Topics:	3
Art		
ART 124	Design 2D	3
ART 127	Design 3D*	3
ART 129	Design Color	3
ART 130	Drawing I	3
ART 131	Drawing II*	3
ART 135	Painting I	3
ART 136	Painting II*	3
ART 138	Digital Imaging for Artists I	3
ART 142	Ceramics I	3
ART 143	Ceramics II*	3
ART 145	Sculpture I	3
ART 146	Sculpture II*	3
ART 148	Metal and Silversmithing I	3
ART 149	Metal and Silversmithing II*	3
ART 172	Watercolor Painting	3
ART 199	Fine Arts Symposium	1
ART 231	Life Drawing I*	3
ART 232	Life Drawing II*	3
ART 235	Studio Workshop I*	3
ART 236	Studio Workshop II*	3
ART 238	Digital Imaging for Artists II*	3
ART 244	Ceramics Workshop I*	3
ART 291	Independent Study*	1-7
ART 292	Special Topics:	1-3
Computer Desktop Publishing		
CDTP 135	Desktop Photo Manipulation I: Photoshop*	1
CDTP 140	Desktop Publishing I: InDesign*	1
CDTP 145	Desktop Illustration I: Illustrator*	1
CDTP 155	Desktop Photo Manipulation II: Photoshop*	1
CDTP 160	Desktop Publishing II: InDesign*	1

CDTP 165	Desktop Illustration II: Illustrator*	1
CDTP 168	Desktop Publishing III: InDesign*	1
CDTP 175	Desktop Photo Manipulation III: Photoshop*	1
CDTP 185	Desktop Illustration III: Illustrator*	1
CDTP 190	Applications for Visual Design*	3
Film and Media		
FMS 100	Intro to Film	3
FMS 200	Intro to Filmmaking and Media Aesthetics	3
FMS 275	Introduction to Film and Media Production*	3
FMS 292	Special Topics:	1-3
Music		
MUS 121	Introduction to Music Listening	3
MUS 123	Introduction to Music Fundamentals	2
MUS 124	Basic Music for the Elementary Classroom	2
MUS 125	Introduction to Jazz Listening	3
MUS 126	Introduction to World Music	3
MUS 128	History of Rock and Roll Music	3
MUS 131	Sight-Singing and Ear Training I	2
MUS 132	Sight-Singing and Ear Training II*	2
MUS 141	Music Theory: Harmony I	3
MUS 142	Music Theory: Harmony II*	3
MUS 143	Music Theory: Harmony III*	3
MUS 145	Jazz/Commercial Music Theory I*	3
MUS 151	Mixed Vocal Ensemble I*	1
MUS 152	Mixed Vocal Ensemble II*	1
MUS 153	Mixed Vocal Ensemble III*	1
MUS 154	Mixed Vocal Ensemble IV*	1
MUS 155	Introduction to the Recording Studio	2
MUS 156	MIDI Music Composition	3
MUS 157	Introduction to Digital Audio*	3
MUS 158	Recording Studio I*	4
MUS 159	Recording Studio II*	4
MUS 161	Chamber Choir I*	1
MUS 162	Chamber Choir II*	1
MUS 163	Chamber Choir III*	1
MUS 164	Chamber Choir IV*	1
MUS 169	Voice Class I	2
MUS 170	Voice Class II*	2
MUS 175	Songwriting*	2
MUS 176	Jazz Band I*	1
MUS 177	Jazz Band II*	1
MUS 178	Jazz Band III*	1
MUS 179	Jazz Band IV*	1
MUS 185	Live Sound Production I	3
MUS 186	Live Sound Production II*	3
MUS 187	Jazz Improvisation I*	2
MUS 188	Jazz Improvisation II*	2
MUS 191	Concert Band I*	1
MUS 192	Concert Band II*	1
MUS 193	Concert Band III*	1
MUS 194	Concert Band IV*	1
MUS 195	Vocal Jazz Ensemble I*	1

MUS 196	Vocal Jazz Ensemble II*	1
MUS 201	Chamber Ensemble I*	1
MUS 202	Chamber Ensemble II*	1
MUS 203	Chamber Ensemble III*	1
MUS 204	Chamber Ensemble IV*	1
MUS 221	Piano Class I	2
MUS 222	Piano Class II*	2
MUS 223	Piano Class III*	2
MUS 226	Applied Guitar I (Class)	1
MUS 227	Applied Guitar II (Class)*	1
MUS 231	Applied Voice I (Private)	1
MUS 232	Applied Voice II (Private)*	1
MUS 233	Applied Voice III (Private)*	1
MUS 234	Applied Voice IV (Private)*	1
MUS 236	Applied Piano I (Private)	1
MUS 237	Applied Piano II (Private)*	1
MUS 238	Applied Piano III (Private)*	1
MUS 239	Applied Piano IV (Private)*	1
MUS 241	Applied Guitar I (Private)	1
MUS 242	Applied Guitar II (Private)*	1
MUS 243	Applied Guitar III (Private)*	1
MUS 244	Applied Guitar IV (Private)*	1
MUS 246	Applied Classical Guitar I (Private)	1
MUS 247	Applied Classical Guitar II (Private)*	1
MUS 248	Applied Classical Guitar III (Private)*	1
MUS 249	Applied Classical Guitar IV (Private)*	1
MUS 251	Applied Brass I (Private)	1
MUS 252	Applied Brass II (Private)*	1
MUS 256	Applied Percussion I (Private)	1
MUS 257	Applied Percussion II(Private)*	1
MUS 258	Applied Percussion III (Private)*	1
MUS 259	Applied Percussion IV (Private)*	1
MUS 261	Applied Woodwind I (Private)	1
MUS 262	Applied Woodwind II (Private)*	1
MUS 263	Applied Woodwind III (Private)*	1
MUS 264	Applied Woodwind IV (Private)*	1
MUS 291	Independent Study*	1-7
MUS 292	Special Topics:	1-3
Photography		
PHOT 100	Photography Basics	3
PHOT 200	Foundations in Photography	3
PHOT 201	Photography I*	4
PHOT 202	Photography II*	4
PHOT 223	Studio Photography*	3
PHOT 224	Experimental Processes*	3
PHOT 291	Independent Study*	1-7
PHOT 292	Special Topics:	1-3
PHOT 293	Photography Seminar*	3
Theater		
THEA 120	Introduction to Theater	3
THEA 121	Fundamentals of Acting	3
THEA 123	Improvisation for the Theater*	2

THEA 130	Acting I*	3
THEA 131	Voice and Speech	3
THEA 133	Technical Practicum I	1
THEA 134	Performance Practicum I	1
THEA 135	Stage Makeup	2
THEA 136	Costume Construction	3
THEA 137	Movement for the Stage	3
THEA 140	Basic Stagecraft	3
THEA 145	Introduction to Theater Design	3
THEA 209	Script Analysis	3
THEA 225	Reader's Theater	3
THEA 230	Acting II*	3
THEA 231	Speech for the Actor*	3
THEA 232	Introduction to Stage Directing and Management*	3
THEA 233	Technical Practicum II*	1
THEA 245	Introduction to Scene Design*	3
THEA 250	Introduction to Costume Design	3
THEA 260	Introduction to Light, Sound and Projections	3
THEA 291	Independent Study*	1-7
THEA 292	Special Topics:*	3

*   This course has registration requirements.
^   See all AFA general education electives (p. 148).
%   Lab course required.
#   Cavalier Credits - Select a course from any general education category (p. 148).

Fire Services Administration

Fire Services Administration Program

Fire Science, AAS

The goal of the Fire Science program at Johnson County Community College is to provide comprehensive education and training, specifically designed to promote the academic and professional development of fire service personnel during their employment and provide education for advancement to company-level officers.

The program serves to provide a higher academic education, technical training, and lifelong learning for members of Johnson County fire-related organizations and those seeking employment in the metro area.

The fire science program at JCCC, in close cooperation with the Johnson County Fire Chiefs Association and the University of Kansas Fire and Rescue Training Institute, has developed a degree for advancement in the fire service.

The program emphasizes general education in addition to technical education and is built around a core of fire science courses carefully selected by the members of the Fire Science Advisory Committee to prepare for your career growth. Technical electives may be pursued through courses available under a continuing cooperative agreement between area fire science programs or through other degree-granting institutions that are accredited by the International Fire Service Accreditation Congress. You may fulfill technical education requirements through the advanced standing credit process.

Note: Mechanisms have been developed to compensate for the effect of students working 24-hour shifts.

For more information, call (913)469-4405.

(Major Code 3210; CIP Code 43.0203)

Fire Science Program web page (http://www.jccc.edu/academics/credit/fire-science/)

Associate of Applied Science Degree

Fall Semester

Code	Title	Hours
EMS 132	Emergency Medical Technician*	12
ENGL 121	Composition I*	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
FIRE 112	Hazardous Materials Awareness and Operations*	3
FIRE 113	Firefighter I*	3
FIRE 114	Firefighter II*	3
FIRE 115	Firefighter Practicum*	3
Humanities Elective ^		3
Total Hours		**15**

Summer Semester

Code	Title	Hours
Science and/or Math Elective ^		3

Fall Semester

Code	Title	Hours
Program Elective (see below)		3
FIRE 162	Firefighting Tactics*	3
FIRE 220	Fire Management*	3
FIRE 222	Fire Science Law*	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
Program Elective (see below)		3
FIRE 136	Fire and Emergency Management*	3
FIRE 152	Codes, Detection and Suppression Systems*	3
FIRE 201	Leadership in the Fire Service*	3
Social and Behavioral and Sciences Elective [^]		3
Total Hours		**15**

Total Program Hours: 63

Program Electives

Code	Title	Hours
FIRE 126	Historical Foundations of the Fire Service*	3
FIRE 127	Building Construction for the Fire Service*	3
FIRE 133	Fire Investigation*	3
FIRE 291	Independent Study*	1-7
FIRE 292	Special Topics:*	1-5

*   This course has registration requirements.

^   See all AAS general education electives (p. 136)

Fire Administration Certificate

The certificate in Fire Administration is offered as a step in the process of receiving an Associate in Applied Science degree in Fire Science.

All courses within the certificate provide knowledge that can be utilized immediately by the firefighter and provide their fire department with a well-rounded employee. The curriculum covers each division of emergency services that will be of immediate use to the organization.

(Major Code 3220; CIP Code 43.0203)

Fire Science Program web page (http://www.jccc.edu/academics/credit/fire-science/)

Certificate Requirements

First Semester

Code	Title	Hours
EMS 132	Emergency Medical Technician*	12
ENGL 121	Composition I*	3
Total Hours		**15**

Second Semester

Code	Title	Hours
FIRE 112	Hazardous Materials Awareness and Operations*	3
FIRE 113	Firefighter I*	3
FIRE 114	Firefighter II*	3
FIRE 115	Firefighter Practicum*	3
Total Hours		**12**

Third Semester

Code	Title	Hours
FIRE 162	Firefighting Tactics*	3
FIRE 220	Fire Management*	3
FIRE 222	Fire Science Law*	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**12**

Fourth Semester

Code	Title	Hours
FIRE 136	Fire and Emergency Management*	3
FIRE 152	Codes, Detection and Suppression Systems*	3
FIRE 201	Leadership in the Fire Service*	3
Total Hours		**9**

Total Program Hours: 48

*   This course has registration requirements.

Firefighter Certificate

The Firefighting Certificate is designed to prepare students for employment in fire services and is embedded in the Associate of Applied Science degree program in Fire Science. Upon completion of this certificate students will be prepared to take state certification exams in Hazmat Awareness, Hazmat Operations, Firefighter I, Firefighter II and Emergency Medical Technician.

(Major Code 3230; CIP Code 43.0203)

Fire Science Program web page (http://www.jccc.edu/academics/credit/fire-science/)

Certificate Requirements

First Semester

Code	Title	Hours
EMS 132	Emergency Medical Technician*	12
Total Hours		**12**

Second Semester

Code	Title	Hours
FIRE 112	Hazardous Materials Awareness and Operations*	3
FIRE 113	Firefighter I*	3
FIRE 114	Firefighter II*	3
FIRE 115	Firefighter Practicum*	3
Total Hours		**12**

Total Program Hours: 24

*   This course has registration requirements.

Game Development

Game Development Program

Game Development, AAS (p. 268)

Game Development, AAS

The game development associate of applied science degree provides students with the focused knowledge and understanding of game design and development useful in qualifying for entry-level industry positions as game programmers, tool builders, collision detection developers, engine builders and interface programmers as well as video and online training developers, Q/A (Question/Answer) Testers, customer supporters and simulations developers. Completion of this degree program will greatly enhance students' ability to create code for 2D/3D graphics and real-time virtual environments. Additional skills will include an understanding of game ethics, of the proper presentation of "game bibles" and of math and physics required to model a realistic game world.

(Major Code 2650; CIP Code 50.0411)

Game Development Program web page (http://www.jccc.edu/academics/credit/game-development/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
CIS 142	Beginning Programming using Python	4
ENGL 121	Composition I*	3
GAME 102	The Business of Games	3
GAME 104	Introduction to Game Development	1
GAME 105	Beginning Game Creation	3
MATH 171	College Algebra* (or higher)	3
Total Hours		**17**

Second Semester (Game Programming Option)

Code	Title	Hours
CS 201	Concepts of Programming Algorithms using C#*	4
GAME 121	Game Programming I*	4
GAME 131	User-Centered Design*	4
GAME 180	Artificial Intelligence for Games*	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**18**

Second Semester (Game Design Option)

Code	Title	Hours
GAME 120	Game Design I*	4
GAME 132	Game Level Editing*	4
GAME 136	Game Prototyping*	4
GAME 180	Artificial Intelligence for Games*	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**18**

Third Semester (Game Programming Option)

Code	Title	Hours
CS 236	Object-Oriented Programming Using C#*	4
GAME 221	Game Programming II*	4
GAME 242	Agile Game Development*	3

MATH 191	Math and Physics for Games I*	4
or PHYS 191	Math and Physics for Games I*	
Total Hours		**15**

Third Semester (Game Design Option)

Code	Title	Hours
GAME 134	Game World Creation*	4
GAME 220	Game Design II*	4
GAME 235	Game Quality Assurance*	2
GAME 242	Agile Game Development*	3
Humanities Elective ^		3
NOTE: HUM 155 or HUM 156 is recommended		
Total Hours		**16**

Fourth Semester (Game Programming Option)

Code	Title	Hours
Program Elective (see below)		3
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
GAME 250	Game Capstone*	4
GAME 255	Mobile Game Programming*	4
Humanities Elective ^		3
NOTE: HUM 155 or HUM 156 is recommended		
Total Hours		**17**

Fourth Semester (Game Design Option)

Code	Title	Hours
Program Elective (see below)		3
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
ENGL 150	Digital Narratives*	3
GAME 238	Serious Game Design*	3
GAME 250	Game Capstone*	4
Total Hours		**16**

Total Program Hours: 67

Program Electives

Code	Title	Hours
ENGL 150	Digital Narratives*	3
GAME 120	Game Design I*	4
GAME 121	Game Programming I*	4
GAME 131	User-Centered Design*	4
GAME 132	Game Level Editing*	4
GAME 134	Game World Creation*	4
GAME 136	Game Prototyping*	4
GAME 220	Game Design II*	4
GAME 221	Game Programming II*	4
GAME 235	Game Quality Assurance*	2
GAME 238	Serious Game Design*	3

| GAME 255 | Mobile Game Programming* | 4 |
| GAME 292 | Special Topics:* | 3 |

*   This course has a registration requirement.
^   See all AAS general education electives (p. 180).

General Sciences

General Sciences Program

General Sciences, AS

An Associate of Science in General Sciences degree provides students with a broad range of courses that can be transferred to degree programs at a four-year college or university. This degree provides students with exposure to many different subjects and perspectives. It requires a minimum of 60 college-level credit hours, with a minimum of 34 hours of general education requirements and 26 hours of STEM and open electives. Many students choose to earn an Associate of Science in General Sciences degree before transferring to a four-year college or university. (*See sample degree program below.*)

Important: Students graduating with an associate of science degree must complete an **approved cultural diversity** course. Some of the approved courses can meet both the cultural diversity requirement and a general education requirement. A list of **approved cultural diversity courses** can be found with the list of AS degree requirements (p. 163).

(Major Code 1010; CIP Code 24.0101)

Associate of Science Degree

First Semester

Code	Title	Hours
Open Elective [+]		6
ENGL 121	Composition I*	3
Arts and Humanities Elective [^]		3
Communications Elective [^]		3
Total Hours		**15**

Second Semester

Code	Title	Hours
Open Elective [+]		6
Math and Statistics Elective [^]		3
Natural and Physical Sciences Elective [^%]		4-5
Social and Behavioral and Sciences Elective [^]		3
Total Hours		**16**

Third Semester

Code	Title	Hours
Open Elective [+]		3
ENGL 122	Composition II*	3
Arts and Humanities Elective [^]		3
Cavalier Credits [#]		3
STEM Elective [¶]		3
Total Hours		**15**

Fourth Semester

Code	Title	Hours
Open Elective [+]		5
Social and Behavioral and Sciences Elective [^]		3
STEM Elective [¶]		3

Cavalier Credits #	3
Total Hours	**14**

Total Program Hours: 60

*   This course has registration requirements.
+   Open electives are non-developmental courses (p. 9) meeting degree requirements. Please consult with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/) for more information.
^   See all AS general education electives (p. 163).
%   Lab course required.
#   Cavalier Credits - Select a course from any general education category (p. 163).
¶   STEM Elective Courses (p. 163)

General Studies

General Studies Program

General Studies, AGS (p. 273)

General Studies, AGS

The associate of general studies degree from JCCC requires a minimum of 60 college-level credit hours within specified course categories and is designed for students who wish to receive a degree for completion of a more general program of study. The degree does not require an academic major or an emphasis on a specific career or transfer program. The list of approved AGS general education courses can be found with a list of AGS degree requirements (p. 185). Courses may not be used to satisfy requirements in more than one category. (*See sample degree program plan below.*)

(Major Code 1050; CIP Code 24.0101)

Associate of General Studies

First Semester

Code	Title	Hours
Open Electives [+]		6
ENGL 121	Composition I*	3
Communications Skills - Speaking [^]		3
Global Issues/Diversity [^]		3
Total Hours		**15**

Second Semester

Code	Title	Hours
Open Electives [+]		6
Culture & Ethics-Historical Perspective [^]		3
Modes of Inquiry-Scientific [^]		3
Computer Skills [^]		3
Total Hours		**15**

Third Semester

Code	Title	Hours
Open Electives [+]		9
Mathematics [^]		3
The Arts [^]		3
Total Hours		**15**

Fourth Semester

Code	Title	Hours
Open Electives [+]		9
Culture & Ethics-Cultural Perspective [^]		3
Modes of Inquiry-Social [^]		3
Total Hours		**15**

Total Program Hours: 60

*   This course has registration requirements.

^   See all AGS general education electives (p. 185).

†   Open electives are non-developmental courses (https://catalog.jccc.edu/coursedescriptions/) meeting degree requirements. Please consult with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/) for more information.

Graphic Design

Graphic Design Program

Graphic Design, AAS (p. 274)

Graphic Design, AAS

The graphic design field is highly competitive for both salaried and freelance positions. There is a demand for designers with above-average talents and graphic art skills. Opportunities in the field range from entry-level layout and production to art director positions.

Demonstrated abilities are most often the key to obtaining a position in the graphic design field. JCCC has structured its graphic design program to help the student develop a comprehensive portfolio. The students have an opportunity to have their work critiqued by a team of professionals every year. These professionals working in the field, along with the faculty, will help develop the student's skills in creative problem-solving and the use of materials, processes, tools, and equipment. Outstanding studio and computer facilities are available for working on class projects. The two-year curriculum consisting of 67 credit hours leads to an associate of applied science degree.

Some GDES courses are typically offered in the fall semester only, and some courses are typically offered in the spring semester only.

Important: Please enroll in the CDTP sections identified in the credit class search as a Graphic Design Qualifier section. The content of these CDTP sections emphasizes the Graphic Design career-specific application of the Adobe Creative Suite to industry standards for digital production and is reserved for students enrolling in the Qualifier semester courses.

(Major Code 2290; CIP Code 50.0409)

Graphic Design Program web page (http://www.jccc.edu/academics/credit/graphic-design/)

Associate of Applied Science Degree

Qualifier Semester

Code	Title	Hours
ART 124	Design 2D	3
CDTP 190	Applications for Visual Design*	3
or CDTP 135	Desktop Photo Manipulation I: Photoshop*	
& CDTP 140	and Desktop Publishing I: InDesign	
& CDTP 145	and Desktop Illustration I: Illustrator	
GDES 120	Introduction to Graphic Design	3
Total Hours		**9**

Fall Semester

Code	Title	Hours
ART 129	Design Color	3
ENGL 121	Composition I*	3
GDES 125	Graphic Processes*	3
GDES 130	Drawing and Media Methods I*	3
GDES 132	Typography*	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
ART 127	Design 3D*	3
GDES 131	Drawing and Media Methods II*	3
GDES 134	Layout Design*	3
Humanities Electives [^]		3

Social and Behavioral and Sciences Elective ^		3
Total Hours		**15**

Fall Semester

Code	Title	Hours
GDES 230	Drawing and Media Methods III*	3
GDES 231	Advanced Typography*	3
GDES 235	Production Methods*	3
Humanities Electives ^		3
Total Hours		**12**

Spring Semester

Code	Title	Hours
Program Elective (see below)		1
GDES 236	Electronic Production*	3
GDES 244	Communication Systems*	3
GDES 245	Advanced Design Practice*	3
GDES 272	Professional Preparation*	3
Science and/or Math Elective ^		3
Total Hours		**16**

Total Program Hours: 67

Program Electives

Code	Title	Hours
ANI 130	Motion Graphics and Effects*	3
ARCH 210	Design History & Society	3
ART 130	Drawing I	3
ART 135	Painting I	3
ART 172	Watercolor Painting	3
CDTP 155	Desktop Photo Manipulation II: Photoshop*	1
CDTP 160	Desktop Publishing II: InDesign*	1
CDTP 165	Desktop Illustration II: Illustrator*	1
GDES 275	Graphic Design Internship*	1
Note: A graphic design major may apply to this internship course if the student is also enrolled in or has completed all fourth-semester studio courses.		
WEB 110	HTML and CSS	3
WEB 125	Digital Video Tools	1
WEB 233	Visual Storytelling	3

*   This course has registration requirements.

^   See all AAS general education electives (p. 180)

Health Care Interpreting

Health Care Interpreting Program

Health Care Interpreting Certificate (p. 276)

Health Care Interpreting Certificate

Health care interpreting (HCI) is designed to give bilingual (English and Spanish) students the awareness, knowledge and skills necessary to serve as entry-level interpreters and translators in health care settings, including hospitals, clinics, medical offices and similar environments. Program completers should be eligible for employment as salaried or on-call staff interpreters, or as self-employed freelance interpreters. Employment opportunities may also be available with professional interpreting and translating service companies. Although the emphasis of the program is medical interpreting, the skills gained could be applied to other interpreting and translating settings in the community, such as conference interpreting and translation of written documents.

Each year we accept up to 12 new students who are fluent in English and Spanish into the HCI program. This is primarily an evening program that students begin during the fall semester. We encourage you to contact Christina Wolff (cdecasqu@jccc.edu) if you have any questions about the selective process. The final selection for new HCI students is made in May.

Candidates for the Health Care Interpreting certificate will be tested in their non-dominate language in order to measure knowledge and fluency in both English and Spanish, with a requirement of ACTFL Advanced Mid in Spanish or English for admission to the program.

The health care interpreting program is a 20-credit hour vocational program leading to a certificate of completion. It is designed to be completed in three semesters, although there is enough flexibility in the curriculum to extend the time period for several additional semesters if the student prefers a slower pace. The program is organized in a progression of courses leading the student from general concepts to increasingly complex skills and knowledge, culminating in a comprehensive skills exam and a professional practicum. It includes five courses developed specifically for the program plus two courses offered through other departments. Students must earn a grade of "C" or higher in each of the program's courses to continue in the program.

Students must earn a grade of "C" or higher in all coursework and be able to demonstrate at least 80% accuracy in both English and Spanish while interpreting.

REQUIREMENTS: All students who participate in shadowing and practicum assignments at Truman Medical Centers (TMC) and Children's Mercy Hospital (CMH) must complete specific requirements. All students must complete and provide the following information to the HCI supervisor by the due dates:

1. Background checks with satisfactory results.
2. Proof of up-to-date immunizations - records must include 2TB tests with readings, MMR, Varicella, the current year's flu shot, Tdap, COVID and Hepatitis B vaccinations or specific titers.

Students will submit documents for TMC and CMH.

Due to the rapidly changing clinical requirements in regard to the COVID-19 vaccination, contact the program director for the most current requirements and process. Health restrictions which prohibit student performance during the shadowing and practicum portion of the program may prevent admission to or completion of the program.

(Major Code 4390; CIP Code 16.0103)

Health Care Interpreting Program web page (http://www.jccc.edu/academics/credit/health-care-interpreting/)

Certificate Requirements

Fall Semester

Code	Title	Hours
HCI 110	Introduction to Interpreting*	3
HCI 120	Interpreting Skills I*	3
Total Hours		**6**

Spring Semester

Code	Title	Hours
HC 130	Medical Terminology for Healthcare Professions	3
HCI 130	Interpreting Skills II*	3
HCI 140	Spanish Medical Interpreting*	3
Total Hours		**9**

Summer/Fall Semester

Code	Title	Hours
HC 101	Introduction to Health Care Delivery	3
HCI 180	Medical Interpreting Practicum*	2
Total Hours		**5**

Total Program Hours: 20

*   This course has registration requirements.

Health Information Systems

Health Information Systems Program

Health Information Systems Certificate (p. 278)

Health Information Systems Specialist Certificate

This certificate program prepares the learner to provide user support of health information systems and design and deliver training programs to employees in clinical and public health settings. This certificate will also provide participants with the knowledge and skills to assist healthcare providers to design workflow and utilize electronic health records (EHRs) to meet government standards of quality reporting and quality improvement initiatives.

Health Information Systems Program web page (http://www.jccc.edu/academics/credit/health-information-systems/)

(Major Code 5330; CIP Code 51.0709)

Certificate Requirements

First Semester

Code	Title	Hours
HCIS 225	Healthcare Data Analytics	2
HCIS 235	Care Coordination and Interoperable Health IT Systems	2
HCIS 245	Population Health	2
HCIS 255	Technology Concepts and Cybersecurity in Healthcare	2
HCIS 262	Customer Service in the Health Environment	2
HCIS 263	Working with Health Information Technology (HIT) Systems	2
HCIS 272	Terminology in Health Care Settings	2
Total Hours		**14**

Second Semester

Code	Title	Hours
HCIS 264	Configuration and Implementation of Electronic Health Records	2
HCIS 265	Installation and Maintenance of Health IT Systems	2
HCIS 267	EHR Design, Functionality and Usability	3
HCIS 270	Health Information Systems Internship*	2
or HCIS 271	The Culture of Healthcare	
HCIS 273	Quality Improvement in Healthcare	2
HCIS 274	Healthcare Workflow Analysis and Redesign	2
or HCIS 277	Training and Instructional Design	
Total Hours		**13**

Total Program Hours: 27

*   This course has registration requirements.

Health Occupations

Health Occupation Programs

Certified Medication Aide Certificate

This 80-hour course covers information related to many commonly prescribed medications. Students learn the classification, side effects and techniques of administration, including preparations and accurate distribution of medications. The safety of clients in long-term care will be discussed and demonstrated by students. Clinical practice sessions will be conducted in a long-term care facility.

The Kansas CMA examination is administered to successful completers of this course.

The employment outlook for the future is excellent. Facilities employing the CMA include long-term care nursing centers as well as other types of group homes and agencies.

Note: *The prerequisite for admission into this course includes the completion of a JCCC placement requirement. Copies of the following will be required the first day of class: proof of current Kansas CNA certification, a current TB skin test within the last year with negative results, current CPR for Health Care Providers documentation, and a Social Security card.*

(Major Code 3560; CIP Code 51.2603)

Certified Medication Aide Program web page (http://www.jccc.edu/academics/credit/nursing/certified-medication-aide/)

Certificate Requirements

Required Course

Code	Title	Hours
AVHO 104	Certified Medication Aide (CMA)*	4
Total Hours		**4**

Total Program Hours: 4

* This course has registration requirements.

Certified Medication Aide Update Certificate

Certified medication aides in Kansas are required to obtain continuing education every two years to renew the CMA certificate. This course meets the state requirements for re-certification. The update course includes review of commonly used drugs and their interactions with foods and other drugs.

Students will discuss and identify legal implications and regulations related to administration and record keeping. Biological effects of medications on the elderly and basic safety principles are reviewed and discussed with other CMAU course participants. This course is available in the classroom and online. A roster of CMAs who complete the update course will be submitted to the Department of Health and Environment for certificate renewal.

Copies of the following are required on the first day of class: social security card, CNA card, and CMA card.

(Major Code 3600; CIP Code 51.2603)

Certified Medication Aide Program web page (http://www.jccc.edu/academics/credit/nursing/certified-medication-aide/)

Certificate Requirements

Required Course

Code	Title	Hours
AVHO 108	Certified Medication Aide Update (CMA-U)*	1
Total Hours		**1**

Total Program Hours: 1

*   This course has registration requirements.

Certified Nurse Aide Certificate

This 96-hour course provides classroom and clinical instruction for basic care of clients in long-term and acute-care facilities. Students will learn skills for daily hygiene, bedside care, vital-sign measurement, positioning and safe transfer of clients. You will learn about common health problems and chronic illnesses. Clinical practice sessions are conducted in the nursing home setting. This course is offered in a classroom setting as well as non-traditional online.

Employment for workers with CNA skills and training is abundant in long-term care facilities. Acute-care hospitals also employ basic patient care aides who are willing to learn advanced skills.

Attendance is critical and should be given top priority. Failure to meet the criteria outlined in the syllabus will necessitate withdrawal from a class. Upon successful completion of the course, students will be scheduled to take the Kansas CNA examination. Sufficient notice of the exam date is given to allow students to make arrangements to be in attendance on the appointed day.

Copies of the following will be required on the first day of class: social security card, current CPR for Health Care Providers card and documentation of a current negative TB test.

(Major Code 3530; CIP Code 51.3902)

Certified Nurse Aide Program web page (http://www.jccc.edu/academics/credit/nursing/certified-nurse-aide/)

Certificate Requirements

Required Course

Code	Title	Hours
AVHO 102	Certified Nurse Aide (CNA)	5
Total Hours		**5**

Total Program Hours: 5

*   This course has registration requirements.

Certified Nurse Aide Refresher Certificate

The CNA in Kansas is required to work at least eight hours every two years for the CNA certificate to remain active. If the CNA does not work for two years, a 21-hour refresher course must be completed. This course meets the state requirement to activate the CNA certificate.

This course includes 12 hours of classroom instruction and 9 hours of laboratory experience. Students will discuss the nurse aide's responsibility in the current health care system and the importance of resident's rights. The student will demonstrate safety measures, infection control procedures, personal care skills, measurement of vital signs and transfers, positioning and turning.

Students enrolled in the refresher course must show proof of certification as a Kansas CNA by bringing a copy of their card on the first day of class.

(Major Code 3540; CIP Code 51.3902)

Certified Nurse Aide Program web page (http://www.jccc.edu/academics/credit/nursing/certified-nurse-aide/)

Certificate Requirements

Required Course

Code	Title	Hours
AVHO 103	Certified Nurse Aide Refresher Course (CNA-R)*	1
Total Hours		**1**

Total Program Hours: 1

*   This course has registration requirements.

Home Health Aide Certificate

Home health care services are in demand, and continued growth in employment opportunities is expected into the next century. Home health aides may be required to provide support services for all age levels in the home setting. This 21contact hour course will provide you with information necessary for nutritional meal planning, task modification, emotional support and personal services to clients and families needing health care assistance at home.

Enrollees must complete a reading comprehension exam/assessment prior to admission. Copies of the following will be required on the first day of class: social security card and current Kansas CNA card. Those who successfully complete this course will be scheduled to take the Kansas HHA certification examination. Sufficient notice of the exam date is given to allow students to make arrangements to be in attendance on the appointed day.

(Major Code 3580; CIP Code 51.2602)

Home Health Aide Program web page (http://www.jccc.edu/academics/credit/nursing/home-health-aide/)

Certificate Requirements

Required Course

Code	Title	Hours
AVHO 106	Home Health Aide (HHA)*	1
Total Hours		**1**

Total Program Hours: 1

*   This course has registration requirements.

Health and Wellness

Health and Wellness Program

Personal Training Certificate

Students that pursue a Personal Training Certificate will be prepared for initial client consultation, assessment, exercise programming and implementation. Throughout the program, students will be provided with opportunities to learn to monitor exercise techniques and response to exercise, including modifications as necessary. This certificate prepares students to gain expertise in exercise leadership and client education, as well as preparing students to adhere to legal and professional responsibilities. Students will be provided a pathway to continue their education in related fields such as Exercise Physiology or Kinesiology if further education is desired.
(Major Code 3300; CIP Code 31.0507)

Certificate Requirements

Suggested Order of Courses

The sequence taken by the student may vary depending on prerequisites, course availability, and personal/ professional responsibilities.

First Semester

Code	Title	Hours
BIOL 144	Human Anatomy and Physiology*	5
ENGL 121	Composition I*	3
HPER 186	Fitness Assessment	2
HPER 192	Wellness for Life	1
HPER 215	Introduction to Exercise Science	3
Program Elective (see below)		1
Total Hours		**15**

Second Semester

Code	Title	Hours
HPER 200	First Aid and CPR	2
HPER 202	Personal Community Health	3
HPER 209	Introduction to Kinesiology*	3
HPER 211	Foundation of Fitness Training	3
Program Elective (see below)		3
Total Hours		**14**

Total Program Hours: 29

Program Electives

Code	Title	Hours
DIET 151	Nutrition and Meal Planning	3
HPER 100	Basketball (Beginning)	1
HPER 101	Basketball (Intermediate)*	1
HPER 104	Yoga	1
HPER 106	Lifetime Sport:	1
HPER 117	Power Volleyball (Beginning)	1
HPER 118	Power Volleyball (Intermediate)*	1
HPER 124	Tai Chi I	1
HPER 130	Running Awareness and Exercise	1
HPER 134	Weight Training (Beginning)	1
HPER 135	Weight Training (Intermediate)*	1

HPER 139	Pickleball	1
HPER 140	Modern Dance (Beginning)	1
HPER 155	Ballet (Beginning)	1
HPER 158	Jazz Dance (Beginning)	1
HPER 175	Fencing	1
HPER 176	Self Defense I	1
HPER 195	Introduction to Sports Medicine	3
HPER 250	Introduction to Sports Management	3
HPER 251	Sport and Society	3
HPER 255	Introduction to Physical Education	3

*   This course has registration requirements.

Heating, Ventilation and Air Conditioning Technology

Heating, Ventilation and Air Conditioning Technology Program

Heating, Ventilation, and Air Conditioning (HVAC) Technology Certificate (p. 288)

Heating, Ventilation, and Air Conditioning (HVAC) Technology AAS (p. 286)

Heating, Ventilation, and Air Conditioning (HVAC) Technology AAS

Modern Heating, Ventilation and Air Conditioning (HVAC) operations depend on well-trained installation and service technicians. Government researchers say graduates of training programs that emphasize hands-on experience will have a definite advantage when seeking employment in heating, ventilation and air conditioning technology. JCCC provides you the opportunity to work on actual equipment while pursuing a degree or a certificate program.

The 63-credit-hour associate of applied science degree program focuses on developing an awareness of basic mathematical and scientific principles of HVAC. The curriculum was developed with the manner by which these principles affect the control of temperature and the quality of air, design, testing, installation and development of heating and cooling systems.

If you select the AAS degree, you will learn the theory of operation as well as installation, duct design, service and repair of gas and electric furnaces, heat pumps and central air conditioners. The HVAC program at JCCC is nationally accreditation from the Partnership for Air-Conditioning, Heating, Refrigeration Accreditation (PAHRA), and you'll benefit when you tell prospective employers you completed a PAHRA-accredited program.

The requirements of the Heating, Ventilation and Air Conditioning (HVAC) AAS program will consist of four semesters. The first two semesters of the HVAC program will be focusing on the student's completing their HVAC certificate which consist of 33 hours. Afterwards, the HVAC students will complete their third and fourth semesters will consist of additional 15 hours of HVAC classes and 15 hours of general education classes.

(Major Code 3020; CIP Code 47.0201)

Heating, Ventilation and Air Conditioning Technology Program web page (http://www.jccc.edu/academics/credit/hvac/)

Associate of Applied Science

Fall Semester

Code	Title	Hours
CMGT 100	Industrial Safety/OSHA-30	3
HVAC 105	HVAC Fundamentals*	4
HVAC 110	Electrical Fundamentals*	4
HVAC 136	Heating System Fundamentals*	3
HVAC 167	Sheet Metal Layout and Fabrication*	3
Total Hours		**17**

Spring Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
HVAC 164	EPA 608 Refrigerant Management*	1
HVAC 188	Load Calculation and Duct Design*	3
HVAC 202	Cooling Systems*	4
HVAC 251	HVAC Installation and Start-up Procedures*	4
HVAC 278	Advanced Electrical Systems*	3
Total Hours		**16**

Summer Semester

Code	Title	Hours
HVAC 231	HVAC Rooftop Units*	3
Total Hours		**3**

Fall Semester

Code	Title	Hours
ENGL 121	Composition I*	3
HVAC 165	410-A Refrigerant Management*	1
HVAC 275	HVAC Code Review*	3
PLUM 110	Introduction to Plumbing Systems	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**13**

Spring Semester

Code	Title	Hours
HVAC 220	HVAC Trade Certification Review*	2
HVAC 280	HVAC Internship*	3
MATH 120	Business Mathematics* (or higher)	3
Communications Elective ^		3
Humanities Elective		3
Total Hours		**14**

Total Program Hours: 63

*   This course has registration requirements.

^   See all AAS general education electives (p. 180)

Heating, Ventilation, and Air Conditioning Technology Certificate

The certificate program is designed to prepare HVAC graduates for the HVAC job skills needed to service and maintain heating and air conditioning equipment. Students who elect to complete the certificate learn the theory of operation, and how to service, repair and design gas furnaces, central air conditioners, heat pumps, and rooftop systems. The instructional format is reinforced by working on actual equipment in the laboratory. Completing this program will allow students to seek employment in the HVAC trade.

(Major Code 6230; CIP Code 47.0201)

Heating, Ventilation and Air Conditioning Technology Program web page (http://www.jccc.edu/academics/credit/hvac/)

Certificate Requirements

Fall Semester

Code	Title	Hours
CMGT 100	Industrial Safety/OSHA-30	3
HVAC 105	HVAC Fundamentals*	4
HVAC 110	Electrical Fundamentals*	4
HVAC 136	Heating System Fundamentals*	3
HVAC 167	Sheet Metal Layout and Fabrication*	3
Total Hours		**17**

Spring Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
HVAC 164	EPA 608 Refrigerant Management*	1
HVAC 188	Load Calculation and Duct Design*	3
HVAC 202	Cooling Systems*	4
HVAC 251	HVAC Installation and Start-up Procedures*	4
HVAC 278	Advanced Electrical Systems*	3
Total Hours		**16**

Total Program Hours: 33

*   This course has registration requirements.

Horticulture

Horticulture Program

Horticultural Sciences Certificate (p. 291)

Horticultural Sciences, AAS (p. 289)

Horticultural Sciences, AAS

The 61-credit hour horticultural sciences AAS degree program is designed to prepare students with the knowledge and skills for a successful career in the horticulture industry. The curriculum is designed to prepare students for entry or management positions in the rapidly advancing, diverse horticultural industry. The coursework, in addition to providing a solid science foundation for propagation, production, and managing plants, also provides students with an invaluable hands-on learning experience, both in controlled environments and the field. The curriculum emphasizes best management practices including integrated pest management, that will conserve and protect our irreplaceable natural resources. Upon completion of the associate of applied science degree, students will possess the knowledge and skills to be successful at entry-level or higher positions in most specializations within Horticulture, including crop production, nursery management, landscape maintenance, golf course management, private and public gardens management, garden center operations, wholesale greenhouse growing, greenhouse operations, landscape design and maintenance, certified commercial pesticide application, arborist, plant science technicians, and other related occupations.

(Major Code 2150; CIP Code 01.0601)

Horticultural Sciences Program web page (http://www.jccc.edu/academics/credit/horticultural-sciences/)

Associate of Applied Science

Fall Semester

Code	Title	Hours
HORT 140	Turfgrass I	3
HORT 201	Introduction to Horticultural Science	4
HORT 214	Woody Plants, Deciduous	3
HORT 220	Herbaceous Plants	3
HORT 235	Landscape Maintenance and Techniques	3
Total Hours		**16**

Spring Semester

Code	Title	Hours
Program Elective (see below)		3
HORT 205	Plant Propagation*	3
HORT 215	Woody Plants, Evergreens	3
HORT 225	Plant Problems*	3
HORT 255	Pest Management	3
Total Hours		**15**

Summer Semester

Code	Title	Hours
HORT 160	Garden Center Operations	3
Total Hours		**3**

Fall Semester

Code	Title	Hours
Program Elective (see below)		6
ENGL 121	Composition I*	3
Science Elective ^		3
Note: BIOL 125 is recommended		

Social and Behavioral and Sciences Elective ^		3
Total Hours		**15**

Spring Semester

Code	Title	Hours
Program Elective (see below)		3
HORT 270	Horticulture Internship*	3
MATH 116	Intermediate Algebra* (or higher)	3
Humanities ^		3
Total Hours		**12**

Total Program Hours: 61

Program Electives

Code	Title	Hours
HORT 115	Home Horticulture	2
HORT 135	Landscape Design	3
HORT 150	Fruits, Vegetables and Herb Crops	2
HORT 165	Arboriculture	3
HORT 240	Turfgrass II*	3
HORT 260	Horticulture Soils	3
HORT 265	Landscape Construction	3

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Horticultural Sciences Certificate

The 31-credit-hour certificate granted by Johnson County Community College is a program designed to prepare students for entry into the rapidly advancing, diverse horticultural industry. The coursework provides a solid science foundation for the propagation, production, and managing of plants, both food and essential, in controlled environments and the field. The curriculum is designed to provide students with an invaluable hands-on learning experience. Upon completion of this certificate, students will possess the knowledge and skills to be successful at entry-level or higher positions in most specializations within Horticulture, including crop production, nursery management, landscape maintenance, golf course management, private and public gardens management, garden center operations, wholesale greenhouse growing, greenhouse operations and other related occupations.

Horticultural Sciences Certificate can be completed through a combination of face-to-face, hybrid, and online classes in one year. Horticultural Sciences Certificate is stackable with the AAS Horticultural Sciences degree.

(Major Code 6180; CIP Code 01.0601)

Horticultural Sciences Program web page (http://www.jccc.edu/academics/credit/horticultural-sciences/)

Certificate Requirements

Fall Semester

Code	Title	Hours
HORT 140	Turfgrass I	3
HORT 201	Introduction to Horticultural Science	4
HORT 214	Woody Plants, Deciduous	3
HORT 220	Herbaceous Plants	3
HORT 235	Landscape Maintenance and Techniques	3
Total Hours		**16**

Spring Semester

Code	Title	Hours
Program Elective (see below)		3
HORT 205	Plant Propagation*	3
HORT 215	Woody Plants, Evergreens	3
HORT 225	Plant Problems*	3
HORT 255	Pest Management	3
Total Hours		**15**

Total Program Hours: 31

Program Electives

Code	Title	Hours
HORT 115	Home Horticulture	2
HORT 135	Landscape Design	3
HORT 150	Fruits, Vegetables and Herb Crops	2
HORT 165	Arboriculture	3
HORT 240	Turfgrass II*	3
HORT 260	Horticulture Soils	3
HORT 265	Landscape Construction	3
HORT 270	Horticulture Internship*	3

*   This course has registration requirements.

Hospitality Management

Hospitality Management Programs

Dietary Manager Certificate (p. 295)

Pastry/Baking Certificate (p. 300)

Chef Apprenticeship, AAS (p. 292)

Food and Beverage Management, AAS (p. 296)

Hotel & Lodging Management, AAS (p. 298)

Chef Apprenticeship, AAS

The hospitality management program at JCCC is a comprehensive study of the food service and public lodging industries. The program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

The chef apprenticeship program at the college is sponsored by the American Culinary Federation and the U.S. Department of Labor. The three-year program has special admission requirements. You must be 18 years old and have a high school diploma or the equivalent.

The career program features formal course work along with the opportunity to actually practice such skills as baking, menu planning, food purchasing, beverage control and food preparation. After job placement, you join the American Culinary Federation Educational Institute for registered apprentice membership. Likewise, you register with the Department of Labor and will be officially indentured to supervising chefs and the sponsoring American Culinary Federation affiliate chapter for 6,000 hours. The program consists of 75 credit hours and leads to an associate of applied science degree.

(Major Code 2440; CIP Code 12.0503)

Chef Apprenticeship Program web page (http://www.jccc.edu/academics/credit/hospitality-culinary/chef-apprenticeship/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
HMGT 120	Food Service Sanitation	1
HMGT 121	Perspectives of Hospitality Management	3
HMGT 123	Professional Cooking I*	3
HMGT 281	Culinary Arts Practicum I*	2
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**12**

Second Semester

Code	Title	Hours
Computer Elective (any CSS course)		1
DIET 151	Nutrition and Meal Planning	3
HMGT 230	Professional Cooking II*	3
HMGT 273	Hospitality Cost Accounting*	3
HMGT 282	Culinary Arts Practicum II*	2
Total Hours		**12**

Summer

Code	Title	Hours
ENGL 121	Composition I*	3
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
Total Hours		**6**

Third Semester

Code	Title	Hours
HMGT 220	American Regional Cuisine*	3
HMGT 271	Seminar in Hospitality Management: Purchasing	3
HMGT 285	Culinary Arts Practicum III*	2
Humanities Elective ^		3
Total Hours		**11**

Fourth Semester

Code	Title	Hours
HMGT 223	Fundamentals of Baking	3
HMGT 226	Garde Manger*	3
HMGT 277	Seminar in Hospitality Management: Menu Design & Planning*	3
HMGT 286	Culinary Arts Practicum IV*	2
Total Hours		**11**

Fifth Semester

Code	Title	Hours
HMGT 231	Advanced Food Preparation*	4
HMGT 279	Beverage Control	3
HMGT 287	Culinary Arts Practicum V*	2
PSYC 121	Applied Psychology	3
or PSYC 130	Introduction to Psychology	
Total Hours		**12**

Sixth Semester

Code	Title	Hours
Program Elective (see list below)		3
HMGT 128	Supervisory Management	3
HMGT 228	Advanced Hospitality Management*	3
HMGT 288	Culinary Arts Practicum VI*	2
Total Hours		**11**

Total Program Hours: 75

Program Electives

Code	Title	Hours
FL 135	Basic Spanish for Hospitality Management	3
HMGT 100	ACF Junior Culinarian	3
HMGT 130	Hospitality Law	3
HMGT 167	Local Food Production	3
or SAG 167	Local Food Production	
HMGT 170	Value-Added Production	3
or SAG 170	Value-Added Production	

HMGT 207	Hospitality Human Resource Management*	3
HMGT 238	Advanced Garde Manger*	3
HMGT 240	Advanced Baking*	4
HMGT 245	Travel for Credit*	3
HMGT 248	Confectionery Arts	3
HMGT 250	Introduction to Catering	3
HMGT 268	Hospitality Managerial Accounting*	3
HMGT 270	Meat and Fish Identification and Fabrication*	3
HMGT 292	Special Topics:*	3
SAG 165	Farm Producer Food Safety	3

*	This course has registration requirements.
^	See all AAS general education electives (p. 180).

Dietary Manager Certificate

Upon completion of this certificate, the students will be eligible to take the CDM Credentialing Exam to become a Certified Dietary Manager. The Association of Nutrition & Foodservice Professionals approves this certificate. Certified Dietary Managers supervise and oversee dietetic services in long-term care facilities, hospitals, schools, correctional institutions and other non-commercial foodservice settings. They are trained to understand the basic nutritional needs of their clientele. Dietary managers work in partnerships with registered dietitians. The dietary manager is responsible for purchasing, sorting, preparing, and delivering balanced nutritional meals. They provide menu variety while maintaining nutritional requirements within cost/profit objectives. The curriculum is separated into four major classroom components: nutrition and medical nutrition therapy, management of foodservices, human resource management, sanitation and food safety. The program will be completed in two semesters.

(Major Code 5370; CIP Code 51.3103)

Dietary Manager Program web page (http://www.jccc.edu/academics/credit/hospitality-culinary/dietary-manager/)

Certificate Requirements

First Semester

Code	Title	Hours
DIET 100	Foodservice Management for Dietary Managers	3
DIET 151	Nutrition and Meal Planning	3
HMGT 120	Food Service Sanitation	1
HMGT 128	Supervisory Management	3
HMGT 123	Professional Cooking I*	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**16**

Second Semester

Code	Title	Hours
DIET 200	Medical Nutrition Therapy*	3
DIET 275	Dietary Managers Practicum*	2
DIET 251	Nutrition Applications*	3
ENGL 121	Composition I*	3
HMGT 207	Hospitality Human Resource Management*	3
Total Hours		**14**

Total Program Hours: 30

* This course has registration requirements.

Food and Beverage Management, AAS

The hospitality management program at JCCC is a comprehensive study of the food service and public lodging industries. The program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

The JCCC food and beverage management program prepares graduates to enter restaurant, club or food service management as a trainee or assistant manager. Courses in the 68-credit-hour program include supervisory management, hospitality accounting, hospitality law, food management, design techniques and advanced hospitality management. In addition, students learn food preparation skills through courses in basic and intermediate food preparation, menu planning, purchasing, nutrition and beverage control. Individuals considering this field should enjoy a very active environment and a lot of contact with people.

(Major Code 2550; CIP Code 12.0504)

Food and Beverage Management Program web page (http://www.jccc.edu/academics/credit/hospitality-culinary/food-beverage-management/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
ENGL 121	Composition I*	3
HMGT 120	Food Service Sanitation	1
HMGT 121	Perspectives of Hospitality Management	3
HMGT 123	Professional Cooking I*	3
HMGT 271	Seminar in Hospitality Management: Purchasing	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**16**

Second Semester

Code	Title	Hours
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
DIET 151	Nutrition and Meal Planning	3
HMGT 128	Supervisory Management	3
HMGT 150	Seminar: Food Service Sales and Marketing	3
HMGT 273	Hospitality Cost Accounting*	3
Total Hours		**15**

Summer

Code	Title	Hours
PSYC 121	Applied Psychology	3
or PSYC 130	Introduction to Psychology	
Humanities Requirement ^		3
Total Hours		**6**

Third Semester

Code	Title	Hours
HMGT 207	Hospitality Human Resource Management*	3
HMGT 221	Design and Facilities Management*	3
HMGT 230	Professional Cooking II*	3
HMGT 277	Seminar in Hospitality Management: Menu Design & Planning*	3
HMGT 279	Beverage Control	3
Total Hours		**15**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		3
HMGT 126	Food Management*	4
HMGT 228	Advanced Hospitality Management*	3
HMGT 268	Hospitality Managerial Accounting*	3
HMGT 275	Seminar in Hospitality Management: Internship*	3
Total Hours		**16**

Total Program Hours: 68

Program Electives

Code	Title	Hours
DIET 100	Foodservice Management for Dietary Managers	3
DIET 200	Medical Nutrition Therapy*	3
FL 135	Basic Spanish for Hospitality Management	3
HMGT 100	ACF Junior Culinarian	3
HMGT 130	Hospitality Law	3
HMGT 167	Local Food Production	3
or SAG 167	Local Food Production	
HMGT 170	Value-Added Production	3
or SAG 170	Value-Added Production	
HMGT 223	Fundamentals of Baking	3
HMGT 245	Travel for Credit*	3
HMGT 250	Introduction to Catering	3
HMGT 292	Special Topics:*	3
SAG 165	Farm Producer Food Safety	3

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Hotel & Lodging Management, AAS

The hospitality management program at JCCC is a comprehensive study of the food service and public lodging industries. The program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

The JCCC hotel and lodging management program prepares the graduate to enter hotel and lodging management, usually as a trainee or department supervisor. Courses in supervisory management, hotel accounting, hotel sales and marketing, and advanced hospitality management provide a comprehensive management background. In addition the students learn basic skills through courses in housekeeping, front office management, basic and intermediate food preparation, and beverage control.

Individuals considering this field should enjoy a very active environment and a lot of contact with people.

(Major Code 2510; CIP Code 52.0904)

Hotel and Lodging Management Program web page (http://www.jccc.edu/academics/credit/hospitality-culinary/hotel-lodging-management/)

Associate of Applied Science

First Semester

Code	Title	Hours
ENGL 121	Composition I*	3
HMGT 120	Food Service Sanitation	1
HMGT 121	Perspectives of Hospitality Management	3
HMGT 132	Seminar in Housekeeping Operations	3
PSYC 121	Applied Psychology	3
or PSYC 130	Introduction to Psychology	
Total Hours		**13**

Second Semester

Code	Title	Hours
HMGT 123	Professional Cooking I*	3
HMGT 128	Supervisory Management	3
HMGT 235	Seminar: Risk Management and Loss Prevention	3
HMGT 265	Front Office Management	3
MATH 120	Business Mathematics*	3
Total Hours		**15**

Summer

Code	Title	Hours
HMGT 275	Seminar in Hospitality Management: Internship*	3
Humanities Elective [^]		3
Total Hours		**6**

Third Semester

Code	Title	Hours
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
HMGT 130	Hospitality Law	3
HMGT 203	Hotel Sales and Marketing*	3
HMGT 273	Hospitality Cost Accounting*	3
HMGT 279	Beverage Control	3
Total Hours		**15**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		6
HMGT 207	Hospitality Human Resource Management*	3
HMGT 228	Advanced Hospitality Management*	3
HMGT 268	Hospitality Managerial Accounting*	3
Total Hours		**15**

Total Program Hours: 64

Program Electives

Code	Title	Hours
DIET 151	Nutrition and Meal Planning	3
FL 135	Basic Spanish for Hospitality Management	3
HMGT 100	ACF Junior Culinarian	3
HMGT 126	Food Management*	4
HMGT 150	Seminar: Food Service Sales and Marketing	3
HMGT 167	Local Food Production	3
or SAG 167	Local Food Production	
HMGT 170	Value-Added Production	3
or SAG 170	Value-Added Production	
HMGT 221	Design and Facilities Management*	3
HMGT 223	Fundamentals of Baking	3
HMGT 245	Travel for Credit*	3
HMGT 271	Seminar in Hospitality Management: Purchasing	3
HMGT 277	Seminar in Hospitality Management: Menu Design & Planning*	3
SAG 165	Farm Producer Food Safety	3

*   This course has registration requirements.

^   See all AAS general education electives (p. 180).

Pastry/Baking Certificate

The pastry/baking certificate program is for students who are seeking employment as pastry cooks in pastry/bake shops, hotels, restaurants, or other areas that produce pastry and baked products. Students may have an entrepreneurial interest in opening their own operations.

The program involves a total of 34 total program hours with a maximum enrollment of 15 students. See the department admission selection process (http://www.jccc.edu/academics/credit/hospitality-culinary/pastry-baking/bak-admission-process.html). This program only starts in the fall semester. Current industry professionals may desire this program to upgrade their skills and increase their knowledge in this area of study.

(Major Code 5360; CIP Code 12.0501)

Pastry/Baking Program web page (http://www.jccc.edu/academics/credit/hospitality-culinary/pastry-baking/)

Certificate Requirements

Prerequisites for Required Courses

All Students must complete the two prerequisite courses with a passing grade before enrolling in the pastry program.

Code	Title	Hours
HMGT 120	Food Service Sanitation	1
HMGT 223	Fundamentals of Baking	3
Total Hours		**4**

Fall Semester

Code	Title	Hours
HMPB 155	Pastry Shop Production I*	4
HMPB 160	Pastry Shop Principles I*	4
HMPB 233	Patisserie*	4
HMPB 252	Pastry Shop Business Basics I*	3
Total Hours		**15**

Spring Semester

Code	Title	Hours
HMPB 255	Pastry Shop Production II*	4
HMPB 257	Sugar Basics*	4
HMPB 260	Pastry Shop Principles II*	4
HMPB 262	Pastry Shop Business Basics II*	3
Total Hours		**15**

Total Program Hours: 34

* This course has registration requirements.

Information Technology

Information Technology Program

Cloud Certificate

The Cloud Certificate at JCCC prepares students to enter the growing field of cloud computing. Students will establish foundational information technology and cloud computing knowledge, focusing on building skills using industry leading platforms Amazon Web Services (AWS), Microsoft Azure, VMware, and Google Cloud. Students will master competencies in networking, operating systems, cloud concepts, cloud security, computing, storage, and virtualization.

(Major Code 4680; CIP Code 11.0901)

Networking & Cybersecurity Program web page (http://www.jccc.edu/academics/credit/networking-cybersecurity/)

Certificate Requirements

First Semester

Code	Title	Hours
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3
IT 230	Linux Fundamentals	3
Total Hours		**9**

Second Semester

Code	Title	Hours
IT 151	VMware vSphere Essentials*	3
IT 152	Google Cloud Fundamentals*	3
IT 153	AWS Cloud Foundations*	3
IT 155	Microsoft Administration Fundamentals*	3
Total Hours		**12**

Third Semester

Code	Title	Hours
IT 207	AWS Cloud Operations*	3
IT 223	Azure Administration*	3
Total Hours		**6**

Total Program Hours: 27

* This course has registration requirements.

Cybersecurity Certificate

The Cybersecurity Certificate at Johnson County Community College prepares students to step into the information security field. They will be responsible for protecting computers, networks, and data from unauthorized access, change, or destruction. Upon completion, students will have strong foundational skills in cyber defense, network security, ethical hacking, digital forensics, and scripting.

(Major Code 4670; CIP Code 11.0901)

Networking & Cybersecurity Program web page (http://www.jccc.edu/academics/credit/networking-cybersecurity/)

Certificate Requirements

First Semester

Code	Title	Hours
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3
IT 230	Linux Fundamentals	3
Total Hours		**9**

Second Semester

Code	Title	Hours
IT 150	Switching, Routing, and Wireless Essentials*	3
IT 155	Microsoft Administration Fundamentals*	3
IT 175	Cybersecurity Fundamentals*	3
IT 231	Linux Administration*	3
IT 238	Digital Forensics*	3
Total Hours		**15**

Third Semester

Code	Title	Hours
IT 202	IT Scripting*	3
IT 239	Ethical Hacking*	3
IT 257	Cybersecurity Operations*	3
Total Hours		**9**

Total Program Hours: 33

*   This course has registration requirements.

Information Technology - Networking, AAS

Information technology connects people, departments and companies for communication purposes. The technology of local area networks gives employees the ability to share and retrieve information at the group level. Combining local area networks with the Internet and telecommunications resources gives employees unlimited intranet access to information throughout the company and beyond. The associate of applied science degree in information technology provides students with a foundation in designing, installing, implementing, and securing computer networking resources. Course requirements include network operations and product-specific requirements for Microsoft, Linux and Cisco.

(Major Code 2330; CIP Code 11.0901)

Networking & Cybersecurity Program web page (http://www.jccc.edu/academics/credit/networking-cybersecurity/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
ENGL 121	Composition I*	3
IT 120	CompTIA A+ Core 2	3
IT 141	Introduction to Networks	3
IT 230	Linux Fundamentals	3
Math Elective ^		3
	Note: MATH 171 is recommended	
Total Hours		**15**

Second Semester

Code	Title	Hours
IT 150	Switching, Routing, and Wireless Essentials*	3
IT 155	Microsoft Administration Fundamentals*	3
IT 175	Cybersecurity Fundamentals*	3
IT 231	Linux Administration*	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**15**

Third Semester

Code	Title	Hours
Program Elective (see below)		3
IT 202	IT Scripting*	3
IT 204	Enterprise Networking, Security and Automation*	3
IT 223	Azure Administration*	3
IT 224	Microsoft 365 Administration*	3
Total Hours		**15**

Fourth Semester

Code	Title	Hours
Program Elective (see below)		9
IT 257	Cybersecurity Operations*	3
Communication Elective ^		3
Humanities Elective ^		3
Total Hours		**18**

Total Program Hours: 63

Program Electives

Code	Title	Hours
AET 185	LAN Cabling and Installation	3
CIS 142	Beginning Programming using Python	4
CSS 121	Introduction to Project Management*	1
ELEC 186	CompTIA A+ Core 1	3
IT 151	VMware vSphere Essentials*	3
IT 152	Google Cloud Fundamentals*	3
IT 153	AWS Cloud Foundations*	3
IT 206	Network Security Fundamentals*	3
IT 207	AWS Cloud Operations*	3
IT 238	Digital Forensics*	3
IT 239	Ethical Hacking*	3
IT 271	Information Technology Internship I*	3
IT 272	Information Technology Internship II*	3
IT 292	Special Topics:*	1-3

*	This course has registration requirements.
^	See all AAS general education electives (p. 180).

Interior Design

Interior Design Programs

Floral Design Certificate (p. 305)

Floral Design Certificate

The floriculture certificate program is designed to prepare students with the knowledge and job skills for employment in the Floriculture Industry. Upon completion of the floriculture certificate, students will possess the competencies to be successful at entry-level or higher positions in the Floriculture Industry.

(Major Code 4420; CIP Code 01.0608)

Floral Design Program web page (http://www.jccc.edu/academics/credit/floral-design/)

Certificate Requirements

First Semester

Code	Title	Hours
Program Elective (see below)		4-6
ACCT 111	Small Business Accounting	3
FLR 130	Principles of Traditional Design	3
FLR 150	Contemporary Design Styles	3
Total Hours		**13-15**

Second Semester

Code	Title	Hours
Program Elective (see below)		3
FLR 200	Plants for Interior Design	3
FLR 220	Wedding Design*	3
FLR 250	Special Event Designs*	3
Total Hours		**12**

Total Program Hours: 25-27

Program Electives

Code	Title	Hours
BUS 245	Small Business Management	3
ENTR 131	Financial Management for Small Business*	2
ENTR 160	Legal Issues for Small Business	2
ENTR 220	Entrepreneurial Marketing*	2
HORT 201	Introduction to Horticultural Science	4
HORT 220	Herbaceous Plants	3
ITMD 127	Elements of Floral Design	1
MATH 120	Business Mathematics*	3
MKT 230	Marketing	3

*   This course has registration requirements.

Interior Design Assistant Certificate

The interior design assistant certificate is a program designed for students employed in or seeking positions assisting in the profession of interior design. The JCCC Interior Design Program provides relevant curriculum with experiential learning that emphasizes the student's ability to think creatively, critically and collaboratively in preparation of entering employment.
One required internship helps develop technical, creative and business skills. Faculty have worked in the field, which equips them to offer valuable firsthand knowledge of what it takes to succeed.

Note: Coursework for the Interior Design programs require a "C" or higher for continuous enrollment and to be awarded degree completion.

(Major Code 3040; CIP Code 50.0408)

Interior Design Program web page (http://www.jccc.edu/academics/credit/interior-design/)

Certificate Requirements

First Semester

Code	Title	Hours
ITMD 115	Accessory Fundamentals	1
ITMD 116	Lighting Fundamentals	1
ITMD 121	Interior Design I	3
ITMD 127	Elements of Floral Design	1
ITMD 132	Materials and Resources	3
ITMD 164	Architectural Drafting for Residential Interior Design	3
ITMD 230	History of Interior Design I	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**18**

Second Semester

Code	Title	Hours
DRAF 264	CAD:Interior Design*	3
ITMD 125	Interior Textiles	3
ITMD 202	Interior Design II*	3
ITMD 231	History of Interior Design II	3
ITMD 271	Budgeting and Estimating*	3
ITMD 282	Interiors Internship I*	1
Total Hours		**16**

Total Program Hours: 34

*   This course has registration requirements.

Interior Design, AAS

The Interior Design AAS degree focuses on interior design career preparation. The Interior Design AAS degree provides the educational start to apply for the National Council of Interior Design Qualification, NCIDQ, exam and the Leadership in Energy and Environmental Design, LEED, Green Associate Certification exam. Interior Design AAS degree graduates are qualified to take the Associate Kitchen and Bath Design, AKBD, certification exam. The JCCC Interior Design Program provides relevant curriculum with experiential learning that emphasizes the student's ability to think creatively, critically and collaboratively in preparation of entering professional employment. Theory and application dovetail in the classroom and community, providing exposure to business and industry standards, professional practices, and progressive design opportunities through cultivated industry relationships. Two required internships help develop technical, creative and business skills.

Faculty have worked in the field, which equips them to offer valuable firsthand knowledge of what it takes to succeed.

JCCC's interior design program is recognized by the National Kitchen and Bath Association as an NKBA Affiliated program.

Note: Some coursework for the Interior Design programs requires a "C" or higher for continuous enrollment and to be awarded degree completion.

(Major Code 2750; CIP Code 50.0408)

Interior Design Program web page (http://www.jccc.edu/academics/credit/interior-design/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
ITMD 115	Accessory Fundamentals	1
ITMD 116	Lighting Fundamentals	1
ITMD 121	Interior Design I	3
ITMD 127	Elements of Floral Design	1
ITMD 132	Materials and Resources	3
ITMD 164	Architectural Drafting for Residential Interior Design	3
ITMD 230	History of Interior Design I	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**18**

Second Semester

Code	Title	Hours
DRAF 264	CAD:Interior Design*	3
ITMD 181	Interior Design Software I*	1
ITMD 202	Interior Design II*	3
ITMD 125	Interior Textiles	3
ITMD 231	History of Interior Design II	3
ITMD 271	Budgeting and Estimating*	3
Total Hours		**16**

Third Semester

Code	Title	Hours
ENGL 121	Composition I*	3
ITMD 129	Design Communication*	3
ITMD 182	Interior Design Software II	1
or CDTP 135	Desktop Photo Manipulation I: Photoshop*	
or CDTP 145	Desktop Illustration I: Illustrator*	
ITMD 214	Building Construction and Environmental Systems for the Interior Designer*	3
ITMD 222	Interior Design III*	3
ITMD 260	Practices and Procedures*	3

ITMD 282	Interiors Internship I*	1
Total Hours		**17**

Fourth Semester

Code	Title	Hours
ITMD 224	Interior Design IV*	3
ITMD 235	Kitchen and Bath Design*	3
ITMD 270	Interior Design Capstone*	1
ITMD 284	Interiors Internship II*	1
Humanities Elective [^]		3
Note: ARTH 180, ARTH 182, ARTH 184 is recommended		
Social and Behavioral and Sciences Elective [^]		3
General Education Elective[^]		3
Total Hours		**17**

Total Program Hours: 68

*   This course has registration requirements.

^   See all AAS general education electives (p. 180)

Interior Staging Certificate

The interior staging certificate is a 15-credit hour program designed for students seeking basic knowledge of interior design.

(Major Code 6530; CIP Code 50.0408)

Interior Design Program web page (http://www.jccc.edu/academics/credit/interior-design/)

Certificate Requirements

Required Courses

Code	Title	Hours
ITMD 115	Accessory Fundamentals	1
ITMD 116	Lighting Fundamentals	1
ITMD 121	Interior Design I	3
ITMD 125	Interior Textiles	3
ITMD 127	Elements of Floral Design	1
ITMD 132	Materials and Resources	3
ITMD 231	History of Interior Design II	3
Total Hours		**15**

Total Program Hours: 15

Kitchen & Bath Design Certificate

Kitchen & Bath Design Certificate prepares graduates for careers in kitchen and bath design. Graduates are qualified to take the Associate Kitchen and Bath Design, AKBD, certification exam. The JCCC Interior Design Program provides relevant curriculum with experiential learning that emphasizes the student's ability to think creatively, critically, and collaboratively in preparation of entering professional employment. Theory and application dovetail in the classroom and community, providing exposure to business and industry standards, professional practices, and progressive design opportunities through cultivated industry relationships. Two required internships help develop technical, creative and business skills. JCCC's interior design program is recognized by the National Kitchen and Bath Association as an NKBA Affiliated program.

Note: Coursework for the Interior Design programs require a "C" or higher for continuous enrollment and to be awarded degree completion.

(Major Code 3140; CIP Code 50.0408)

Interior Design Program web page (http://www.jccc.edu/academics/credit/interior-design/)

Certificate Requirements

First Semester

Code	Title	Hours
ITMD 115	Accessory Fundamentals	1
ITMD 116	Lighting Fundamentals	1
ITMD 121	Interior Design I	3
ITMD 127	Elements of Floral Design	1
ITMD 132	Materials and Resources	3
ITMD 164	Architectural Drafting for Residential Interior Design	3
ITMD 230	History of Interior Design I	3
MATH 120	Business Mathematics* (or higher)	3
Total Hours		**18**

Second Semester

Code	Title	Hours
DRAF 264	CAD:Interior Design*	3
ITMD 125	Interior Textiles	3
ITMD 181	Interior Design Software I*	1
ITMD 202	Interior Design II*	3
ITMD 231	History of Interior Design II	3
ITMD 271	Budgeting and Estimating*	3
Total Hours		**16**

Third Semester

Code	Title	Hours
ENGL 121	Composition I*	3
ITMD 129	Design Communication*	3
ITMD 182	Interior Design Software II	1
or CDTP 135	Desktop Photo Manipulation I: Photoshop*	
or CDTP 145	Desktop Illustration I: Illustrator*	
ITMD 214	Building Construction and Environmental Systems for the Interior Designer*	3
ITMD 222	Interior Design III*	3
ITMD 260	Practices and Procedures*	3
ITMD 282	Interiors Internship I*	1
Total Hours		**17**

Fourth Semester

Code	Title	Hours
ITMD 235	Kitchen and Bath Design*	3
ITMD 284	Interiors Internship II*	1
Total Hours		**4**

Total Program Hours: 55

*   This course has registration requirements.

Legal Studies

Legal Studies Program

Paralegal Certificate (p. 313)

Paralegal Certificate

Approved by the American Bar Association (ABA) continuously for more than 40 years, our Paralegal program provides a practical educational experience to students new to the legal profession and those with years of experience working in law. The JCCC program provides students with real-world assignments and experiences to develop the skills needed to begin, continue, and move ahead in careers at private law firms, corporate legal departments, and government agencies.

Paralegals may not provide legal services directly to the public, except as permitted by law.

The JCCC Paralegal program will prepare you for a successful career as a paralegal. You will learn how to investigate, interview, research legal precedent, and draft legal documents under the direction and supervision of an attorney. You will also develop skills in legal technology, litigation preparation, legal analysis, and communication.

Program Objectives

Our graduates should be able to demonstrate:

- competency in the fundamental principles and procedures relating to the major areas of law in the United States;
- an understanding of the ethical standards of the legal profession;
- effective general and legal technology skills;
- effective communication skills used in a legal setting;
- the ability to collaborate effectively in a legal setting; and
- the ability to retrieve, evaluate, and apply legal authority.

Because we are an ABA-approved paralegal program, you must have earned a qualifying degree before you can be awarded the Paralegal Certificate from JCCC.

If you do not yet have a qualifying degree, you can still apply to the Paralegal program to earn the Paralegal Certificate, but you must simultaneously enroll in the Liberal Arts, AA (p. 315) degree program. You will be required to complete 60 semester credit hours, which are a combination of general education courses and paralegal courses. You must also complete the prerequisite courses ENGL 121 (or its equivalent), LAW 120, and LAW 121 with a grade of "C" or higher before your admission to the Paralegal program.

If you have an associate of arts, associate of science, bachelor's, or graduate degree from a U.S. regionally accredited institution, then you may apply to the Paralegal program to earn the Paralegal Certificate, which requires successful completion of 32 semester credit hours. The prerequisite courses LAW 120 and LAW 121 must be completed by the end of your first semester in the Paralegal Certificate program.

A minimum of 18 hours of legal specialty courses must be taken from Johnson County Community College. JCCC, as an ABA-approved paralegal program, requires its students to take at least nine-semester credits through synchronous (real-time) instruction, which may occur on campus or online.

Students must earn a grade of "C" or higher in all LAW courses.

(Major Code 489A; CIP Code 22.0302)

Paralegal Program web page (http://www.jccc.edu/academics/credit/paralegal/)

Certificate Requirements

Program Prerequisites

Code	Title	Hours
LAW 120	Introduction to Paralegal Studies	3
LAW 121	Introduction to Law	3
Total Hours		**6**

First Semester

Code	Title	Hours
Paralegal Elective (see below)		3
LAW 132	Civil Litigation*	3
LAW 134	Introduction to Legal Technology*	3
LAW 195	Legal Research*	3
Total Hours		**12**

Second Semester

Code	Title	Hours
Paralegal Elective (see below)		5
LAW 201	Advanced Legal Technology*	3
LAW 205	Legal Analysis and Writing*	3
LAW 271	Legal Ethics, Interviewing and Investigation*	3
Total Hours		**14**

Total Program Hours: 32

Paralegal Electives

Code	Title	Hours
LAW 142	Tort Law*	3
LAW 144	Contract Law*	3
LAW 148	Criminal Litigation*	3
LAW 152	Real Estate Law*	3
LAW 162	Family Law*	3
LAW 165	Forensic Science and the Law*	3
LAW 226	Immigration Law*	3
LAW 232	eDiscovery and Document Management*	2
LAW 245	Elder Law and Estate Planning*	3
LAW 247	Intellectual Property Law*	3
LAW 266	Employment Law*	3
LAW 269	Bankruptcy Law*	3
LAW 275	Paralegal Internship I*	1
LAW 276	Paralegal Internship II*	1
LAW 277	Paralegal Internship III*	1
LAW 292	Special Topics:*	1-3

*   This course has registration requirements.

Liberal Arts

Liberal Arts Program

Liberal Arts, AA (p. 315)

Liberal Arts, AA

An Associate of Arts in Liberal Arts degree provides students with a broad range of courses that can be transferred to degree programs at a four-year college or university. This degree provides students with exposure to many different subjects and perspectives. It requires a minimum of 60 college-level credit hours, with a minimum of 34 hours of general education requirements and 26 hours of electives. Many students choose to earn an Associate of Arts in Liberal Arts degree before transferring to a four-year college or university. (*See sample degree program below.*)

Important: Students graduating with an associate of science degree must complete an **approved cultural diversity** course. Some of the approved courses can meet both the cultural diversity requirement and a general education requirement. A list of **approved cultural diversity courses** can be found with the list of AA degree requirements (p. 136).

(Major Code 1000; CIP Code 24.0101)

Associate of Arts Degree

First Semester

Code	Title	Hours
Open Elective [+]		6
ENGL 121	Composition I*	3
Arts and Humanities Elective [^]		3
Communications Elective [^]		3
Total Hours		**15**

Second Semester

Code	Title	Hours
Open Elective [+]		6
ENGL 122	Composition II*	3
Math and Statistics Elective [^]		3
Social and Behavioral and Sciences Elective [^]		3
Total Hours		**15**

Third Semester

Code	Title	Hours
Open Elective [+]		6
Arts and Humanities Elective [^]		3
Natural and Physical Sciences Elective [^%]		4-5
Cavalier Credit [#]		3
Total Hours		**16**

Fourth Semester

Code	Title	Hours
Open Elective [+]		8
Social and Behavioral and Sciences Elective [^]		3
Cavalier Credit [#]		3
Total Hours		**14**

Total Program Hours: 60

*   This course has registration requirements.
+   Open electives are non-developmental courses (p. 9) meeting degree requirements. Please consult with a JCCC counselor (https://www.jccc.edu/student-resources/counseling/academic-counseling/) for more information.
^   See AA general education electives (p. 136).
%   Lab course required.
#   Cavalier Credits - Select a course from any general education category (p. 136).

Marketing and Management

Marketing Program

Digital Marketing Certificate (p. 319)

Sales and Customer Relations Certificate (p. 320)

Marketing Management, AAS (p. 317)

Marketing Management, AAS

Graduates of JCCC's Marketing Management program are ready for entry-level management or sales positions in retail, wholesale or manufacturing and marketing. Merchandising, marketing and management-related fields have recently experienced tremendous growth and expansion in Johnson County. Surveys indicate that few other areas offer greater opportunities to qualified people. In fact, the employment of people in this field is expected to increase faster than the average for all occupations nationwide.

Through marketing management courses you learn the latest in business and consumer marketing trends. You also learn the importance of good customer service and the skills needed to deliver that service. The curriculum reflects current industry standards, including an emphasis on digital marketing, interpersonal communications and consumer behavior.

The marketing skills taught are immediately applicable to your job and career. You also can take your work experiences back to the classroom for analysis and a greater understanding of the problems businesses face. By integrating coursework and on-the-job experience, you are given the knowledge, skills and attitudes necessary to reach your marketing career objectives.

(Major Code 2620; CIP Code 52.1401)

Marketing and Management Program web page (http://www.jccc.edu/academics/credit/marketing-management/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
CIS/CS/CSS/CDTP Elective		1
Note: CDTP 135 recommended		
BUS 121	Introduction to Business	3
or BUS 140	Principles of Supervision	
or BUS 241	Principles of Management	
ENGL 121	Composition I*	3
MATH 120	Business Mathematics* (or higher)	3
MKT 134	Professional Selling	3
MKT 230	Marketing	3
Total Hours		**16**

Second Semester

Code	Title	Hours
COMS 120	Interpersonal Communication	3
or COMS 121	Public Speaking	
or COMS 125	Personal Communication	
MKT 121	Retail Management	3
MKT 180	Experiential Marketing	3
MKT 202	Consumer Behavior	3
MKT 205	eMarketing	3
Total Hours		**15**

Third Semester

Code	Title	Hours
ACCT 111	Small Business Accounting	3
or ACCT 121	Accounting I	
MKT 146	Introduction to Social Media Marketing	3
MKT 240	Advertising and Promotion	3
MKT 284	Marketing Management Internship I	1
Humanities Elective^		3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**16**

Fourth Semester

Code	Title	Hours
BLAW 261	Business Law I*	3
MKT 221	Sales Management*	3
or MKT 234	Services Marketing*	
MKT 275	Marketing Analytics and CRM (Customer Relationship Management)	3
MKT 286	Marketing Management Internship II*	1
or MKT 292	Special Topics:	
MKT 290	Capstone: Marketing Management*	3
WEB 110	HTML and CSS	3
or FASH 235	Online Retailing	
Total Hours		**16**

Total Program Hours: 63

*   This course has registration requirements.
^   See all AAS general education electives (p. 180)

Digital Marketing Certificate

The Digital Marketing certificate is a program designed to introduce students to digital and multi-channel marketing. Students will learn the technical skills and marketing strategy knowledge they need to identify, engage, and develop successful relationships with customers in today's digital environment.

(Major Code 5470; CIP Code 52.1401)

Marketing and Management Program web page (http://www.jccc.edu/academics/credit/marketing-management/)

Certificate Requirements

First Semester

Code	Title	Hours
MKT 146	Introduction to Social Media Marketing	3
MKT 205	eMarketing	3
MKT 230	Marketing	3
or MKT 202	Consumer Behavior	
or MKT 240	Advertising and Promotion	
Total Hours		**9**

Second Semester

Code	Title	Hours
CDTP 135	Desktop Photo Manipulation I: Photoshop*	1
MKT 134	Professional Selling	3
or MKT 180	Experiential Marketing	
MKT 275	Marketing Analytics and CRM (Customer Relationship Management)	3
WEB 110	HTML and CSS	3
or FASH 235	Online Retailing	
Total Hours		**10**

Total Program Hours: 19

*   This course has registration requirements.

Sales and Customer Relations Certificate

JCCC's sales and customer relations program is designed for people employed in sales who wish to refine their skills or those who are contemplating a career in sales. The program focuses on the steps involved in the selling process and the delivery of effective customer service. Students who complete the program may find careers in sales (retail, wholesale, or manufacturing) or in the customer service departments of stores, businesses, and manufacturers.

All of the 31-credit hours required for the certificate apply toward JCCC's Marketing and Management Associate of Applied Science degree.

(Major Code 4920; CIP Code 52.1401)

Marketing and Management Program web page (http://www.jccc.edu/academics/credit/marketing-management/)

Certificate Requirements

First Semester

Code	Title	Hours
COMS 121	Public Speaking	3
or COMS 120	Interpersonal Communication	
or COMS 125	Personal Communication	
MKT 121	Retail Management	3
MKT 134	Professional Selling	3
MKT 205	eMarketing	3
MKT 230	Marketing	3
Total Hours		**15**

Second Semester

Code	Title	Hours
MKT 146	Introduction to Social Media Marketing	3
MKT 202	Consumer Behavior	3
MKT 221	Sales Management*	3
MKT 234	Services Marketing*	3
or MKT 290	Capstone: Marketing Management*	
MKT 275	Marketing Analytics and CRM (Customer Relationship Management)	3
MKT 284	Marketing Management Internship I	1
Total Hours		**16**

Total Program Hours: 31

*   This course has registration requirements.

Medical Information and Revenue Management

Medical Information and Revenue Management Program

Medical Coding Specialist Certificate (p. 321)

Medical Coding Specialist Certificate

The Medical Coding Specialist Certificate is designed to prepare students for employment as medical coders. Medical coders are health information professionals who specialize in analyzing health record documentation and determining diagnoses and procedures required for reporting purposes. Medical codes determined by medical coders are used primarily for reimbursement purposes; however, medical codes are also used for public health, research, operational and organizational planning, and benchmarking purposes in healthcare.

The work of medical coders requires knowledge of biomedical sciences, healthcare delivery, health information technology, and health record documentation. Therefore, the rigor of this certificate provides students with challenging curricula in these domains.

Medical coders traditionally work in hospitals, ambulatory healthcare facilities, and physician offices to code records for reimbursement purposes. However, some medical coding professionals use their knowledge and expertise for non-traditional employment opportunities with third-party payers, medical software vendors, and the government (among others).

The healthcare industry depends on highly skilled and knowledgeable professionals in all areas of practice. Therefore, individuals considering a career in medical coding should recognize the importance of earning medical coding credentials after completion of this certificate program. Credentialing in healthcare is often required for employment, demonstrates professional competence, and illustrates a commitment to one's profession. Successful completion of this program prepares students to sit for either the Certified Professional Coder (CPC) offered by the American Academy of Professional Coders (AAPC) and/or the Certified Professional Coder (CPC) and/or Certified Coding Specialist (CCS) credentialing examination offered by the American Health Information Management Association (AHIMA).

(Major Code 4660; CIP Code 51.0713)

Medical Information and Revenue Management Program web page (http://www.jccc.edu/academics/credit/medical-information-revenue-management/)

Certificate Requirements

First Semester

Code	Title	Hours
BIOL 144	Human Anatomy and Physiology*	5
HC 130	Medical Terminology for Healthcare Professions	3
HCIS 255	Technology Concepts and Cybersecurity in Healthcare	2
MATH 116	Intermediate Algebra* (or higher) (Note: Students planning to pursue undergraduate degrees in health information management or healthcare administration should take MATH 171 College Algebra.)	3
MIRM 140	Fundamentals of Health Records	2
Total Hours		**15**

Second Semester

Code	Title	Hours
ENGL 121	Composition I*	3
HCIS 271	The Culture of Healthcare	2
MIRM 141	Computer Systems for Health Information Management Professionals*	3
MIRM 142	Legal and Ethical Issues in Healthcare	3
MIRM 143	Coding Classification Systems I*	3
Total Hours		**14**

Third Semester

Code	Title	Hours
BIOL 227	Human Pathophysiology*	4
MIRM 144	Coding Classification Systems II* (Note: Students are recommended to concurrently enroll in BIOL 227)	3

MIRM 145	Reimbursement Methodologies*	3
MIRM 147	Introduction to Pharmacology*	2
Total Hours		**12**

Fourth Semester

Code	Title	Hours
MIRM 146	Coding Classification Systems III*	3
MIRM 148	Medical Coding Internship*	1
Total Hours		**4**

Total Program Hours: 45

Code	Title	Hours
MIRM 198	Medical Coding Credential Exam Preparation*	2
Note: MIRM 198 is recommended for those interested in credential examinations.		

*   This course has registration requirements.

Metal Fabrication/Welding

Metal Fabrication/Welding Technology Program

Metal Fabrication/Welding Technology, AAS

The Metal Fabrication/Welding Technology program offers students the required skills and knowledge to get an entry level position in a variety of welding career options. It builds off of the welding certificate to include additional training in the major processes as well as opportunities to learn machining, FCAW, and common fabrication practices along with the general education courses required to be a well-rounded critical thinker. These skills make a welder more employable and promotable in their field.

(Major Code 2460; CIP Code 48.0508)

Welding (Metal Fabrication) Program web page (http://www.jccc.edu/academics/credit/welding/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
MFAB 124	Introduction to Welding	3
MFAB 126	Cutting Processes for Welding*	3
MFAB 131	Shielded Metal Arc Welding (SMAW) I*	3
MFAB 180	Blueprint and Symbols Reading for Welders	2
MFAB 205	Shielded Metal Arc Welding (SMAW) II*	3
Total Hours		**15**

Second Semester

Code	Title	Hours
CMGT 100	Industrial Safety/OSHA-30	3
MFAB 133	Gas Metal Arc Welding (GMAW) I*	3
MFAB 136	Gas Tungsten Arc Welding (GTAW) I*	3
MFAB 210	Gas Metal Arc Welding (GMAW) II*	3
MFAB 240	Metallurgy	2
MFAB 241	Gas Tungsten Arc Welding (GTAW) II*	3
Total Hours		**17**

Third Semester

Code	Title	Hours
ENGL 121	Composition I*	3
MATH 130	Technical Mathematics I*	3
MFAB 128	Basic Machine Tool Technology	3
MFAB 215	Fabrication Practices I*	3
Program Elective (see below)		6
Total Hours		**18**

Fourth Semester

Code	Title	Hours
ENGL 123	Technical Writing I*	3
HPER 200	First Aid and CPR	2

MFAB 220	Flux Core Arc Welding (FCAW)*	3
Humanities Elective ^		3
Social and Behavioral and Sciences Elective ^		3
Program Elective (see below)		3
Total Hours		**17**

Total Program Hours: 67

Program Electives

Code	Title	Hours
CMGT 150	Construction Safety/OSHA-30	3
MFAB 140	Maintenance Repair Welding*	3
MFAB 250	Fabrication Practices II*	3
MFAB 255	Advanced Machine Tool Technology*	3
MFAB 259	Shielded Metal Arc Welding (SMAW) III*	3
MFAB 271	Metal Fabrication Internship*	3

*   This course has registration requirements.

^   See all AAS general education electives (p. 180)

Metal Fabrication/Welding Certificate

The metal fabrication/welding certificate teaches welding skills in the areas of shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux core arc welding (FCAW), gas and tungsten arc welding (GTAW), oxy-fuel welding (OFW), oxy-fuel cutting (OFC), and plasma arc cutting (PAC). The students also will receive training in safety and basic blueprint reading, and metallurgy. This certificate gives the student the skills needed to successfully enter the field of welding.

(Major Code 5380; CIP Code 48.0508)

Welding (Metal Fabrication) Program web page (http://www.jccc.edu/academics/credit/welding/)

Certificate Requirements

First Semester

Code	Title	Hours
COMS 155	Workplace Skills	1
MFAB 124	Introduction to Welding	3
MFAB 126	Cutting Processes for Welding*	3
MFAB 131	Shielded Metal Arc Welding (SMAW) I*	3
MFAB 180	Blueprint and Symbols Reading for Welders	2
MFAB 205	Shielded Metal Arc Welding (SMAW) II*	3
Total Hours		**15**

Second Semester

Code	Title	Hours
CMGT 100	Industrial Safety/OSHA-30	3
MFAB 133	Gas Metal Arc Welding (GMAW) I*	3
MFAB 136	Gas Tungsten Arc Welding (GTAW) I*	3
MFAB 210	Gas Metal Arc Welding (GMAW) II*	3
MFAB 240	Metallurgy	2
MFAB 241	Gas Tungsten Arc Welding (GTAW) II*	3
Total Hours		**17**

Total Program Hours: 32

*   This course has registration requirements.

Neurodiagnostic Technology

Neurodiagnostic Technology Program

Neurodiagnostic Technology, AAS (p. 326)

Neurodiagnostic Technology, AAS

This program prepares the students as an entry level neurodiagnostic technologist. In the classroom setting the students will explore anatomy, physiology, and the pathophysiology of neuroscience, legal and ethical concepts of healthcare, safe and effective care environment, and professional standards of practice in preparation for their clinical experience and career.

Throughout the program in a patient-centered care setting the students collaborate as a member of the health care team, integrate latest research into practice, apply a variety of methods to communicate effectively, utilize critical thinking skills to ensure safe environment for patients, evaluate neurodiagnostic tests, and practice within the ethical and legal realm of the neurodiagnostic profession.

This is a selective admissions program with limited enrollment. Prospective students are encouraged to visit the program website or contact JCCC program personnel for additional information and application materials at (913)469-2583 or rc-ndt@jccc.edu.

Students must "pass" all clinical courses and maintain a grade of "C" or higher in all non-clinical courses to remain in the program.

Neurodiagnostic Technology Program web page (http://www.jccc.edu/academics/credit/neurodiagnostic-technology/)

(Major Code 207A; CIP Code 51.0903)

Associate of Applied Science Degree

Prior to beginning professional courses:

Code	Title	Hours
BIOL 144	Human Anatomy and Physiology*	5
Note: BIOL 140 and BIOL 225 will satisfy the BIOL 144 requirement.		
ENGL 121	Composition I*	3
HC 130	Medical Terminology for Healthcare Professions	3
General Education Elective ^		3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**17**

First Semester

Code	Title	Hours
NDT 125	Introduction to Neurodiagnostic Technology*	4
NDT 130	Foundations of Neurodiagnostic Technology*	3
NDT 135	Pediatric Neurodiagnostic Technology I*	5
Total Hours		**12**

Second Semester

Code	Title	Hours
NDT 140	Adult Neurodiagnostic Technology I*	4
NDT 145	Pediatric Neurodiagnostic Technology II*	4
NDT 150	Neurodiagnostic Clinical Correlates*	2
NDT 156	Neurodiagnostic Clinical I*	2
Total Hours		**12**

Third Semester

Code	Title	Hours
NDT 225	Polysomnography*	5
NDT 230	Adult Neurodiagnostic Technology II*	3
NDT 240	Neurodiagnostic Clinical II*	4
Total Hours		**12**

Fourth Semester

Code	Title	Hours
NDT 245	Neurodiagnostic Related Modalities*	3
NDT 250	Neurodiagnostic Program Capstone*	3
NDT 256	Polysomnography Clinical*	4
Humanities Elective ^		3
Total Hours		**13**

Total Program Hours: 66

*   This course has registration requirements.

^   See all AAS general education electives (http://catalog.jccc.edu/degreerequirements/associate-applied-science/).

Nursing

Nursing Programs

Nursing - Registered Nurse, AAS

Nursing is a rewarding and challenging career with an optimistic employment future. JCCC's registered nurse program has continuing accreditation by the Accreditation Commission for Education in Nursing (ACEN) and continuing approval by the Kansas State Board of Nursing (KSBN). Our faculty are well qualified and experienced in the practice and teaching of nursing.

Students receive clinical practice in a variety of settings, including hospitals, long-term care facilities and clinics. Experiences are offered in maternal child nursing, pediatric nursing, operating room nursing, medical-surgical nursing, mental health nursing and gerontology.

A registered nurse with an associate's degree is a skilled healthcare provider who administers nursing care directly to patients and their families in a variety of settings. The job outlook is very positive. Employment of registered nurses is expected to grow faster than the average for all occupations.

The LPN to RN bridge option provides those licensed practical nurses wanting to become registered nurses the opportunity to do so. Admission to the registered nursing program is based on a selective admission process. LPN students should contact the nursing program for details.

Note: The nursing program is a selective admission program with limited enrollment. Prospective students are encouraged to attend group information sessions *(*http://www.jccc.edu/academics/health/registered-nurse/nursing-information-sessions.html*). Current Kansas CNA certification is required for application to the nursing program. Current AHA Health Care Providers CPR Certification (may be satisfied with EMS 121) is required to be completed prior to starting the nursing program. Visit the program website or contact JCCC Program personnel for additional information and application materials at* (913)469-3157*.*

Students must earn a grade of "C" or higher in all coursework.

(Major Code 235A; CIP Code 51.3801)

Registered Nurse (RN) Program web page (http://www.jccc.edu/academics/credit/nursing/registered-nurse/)

Associate of Applied Science Degree

Program Prerequisites

Code	Title	Hours
BIOL 144	Human Anatomy and Physiology*	5
Note: BIOL 140 and BIOL 225 will satisfy the BIOL 144 requirement.		
ENGL 121	Composition I*	3
MATH 171	College Algebra* (or higher)	3
PSYC 130	Introduction to Psychology	3
Total Hours		**14**

First Semester

Code	Title	Hours
BIOL 227	Human Pathophysiology*	4
NURS 101	Foundational Concepts of Nursing I*	9
NURS 102	Health Assessment and Skills for Nursing Practice*	3
Total Hours		**16**

Second Semester

Code	Title	Hours
NURS 105	Foundational Concepts of Nursing II*	9
PSYC 218	Human Development*	3
Total Hours		**12**

Third Semester

Code	Title	Hours
NURS 201	Complex Concepts of Nursing I*	9
Communications Elective ^		3
Note: ENGL 122 is recommended		
Total Hours		**12**

Fourth Semester

Code	Title	Hours
NURS 205	Complex Concepts of Nursing II*	9
Humanities Elective ^		3
Total Hours		**12**

Total Program Hours 66

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Practical Nursing Certificate

The health care industry needs informed, skilled and dependable workers to complete the care team. The licensed practical nurse assists registered nurses and physicians in caring for physically or mentally ill clients. In the long-term care setting and home health, the LPN may supervise other nursing care personnel.

Practical nursing offers employment in many health care settings. Long-term care, physicians' offices, home care, hospitals and clinics provide opportunities for the practical nurse to administer care to a variety of clients.

Note: This program requires prerequisite coursework and selective admissions approval.

Upon successful completion of the program, graduates are eligible to apply to take the Practical Nursing Licensing exam. After completing the practical nursing program, LPNs may continue their education to become a registered nurse.

Students must "pass" all clinical courses and maintain a grade of "C" or higher in all non-clinical courses to remain in the program.

(Major Code 366A/368A; CIP Code 51.3901)

Practical Nurse Program web page (http://www.jccc.edu/academics/credit/nursing/practical-nurse/)

Certificate Requirements

Program Prerequisites

Code	Title	Hours
BIOL 144	Human Anatomy and Physiology*	5
BIOL 140 and BIOL 225 will satisfy the BIOL 144 requirement.		
HC 130	Medical Terminology for Healthcare Professions	3
PSYC 130	Introduction to Psychology	3
PSYC 218	Human Development*	3
Total Hours		**14**

Full-time Option

The full-time program, which can be completed in 9 months, provides 880 clock hours of instruction. This includes classroom and clinical laboratory experiences in many areas of nursing.

- For application deadlines and other details, see admission requirements (https://www.jccc.edu/academics/credit/nursing/practical-nurse/pn-admission-requirements.html)

Code	Title	Hours
First Semester		
PN 125	KSPN Foundations of Nursing*	4
PN 126	KSPN Foundations of Nursing Clinical*	2
PN 136	KSPN Fundamentals of Pharmacology and Safe Medication Administration*	2
PN 140	KSPN Maternal Child Nursing*	2
PN 141	KSPN Maternal Child Nursing Clinical*	1
PN 145	KSPN Mental Health Nursing*	2
Second Semester		
PN 130	KSPN Nursing Care of Adults I*	4
PN 132	KSPN Nursing Care of Adult I Clinical*	2
PN 150	KSPN Nursing Care of Adults II*	4
PN 152	KSPN Nursing Care of Adults II Clinical*	2
PN 155	KSPN Care of Aging Adults*	2
PN 175	KSPN Leadership, Roles and Issues*	1
Total Hours		**28**

Total Program Hours: 42

Part-time (Evening-Weekend) Option

The part-time program, which can be completed in 14 months, provides approximately 880 clock hours of instruction. This includes classroom and clinical laboratory experiences in many areas of nursing.

- For application deadlines and other details, see admission requirements (https://www.jccc.edu/academics/credit/nursing/practical-nurse/pn-admission-requirements.html)

Code	Title	Hours
First Semester (Summer)		
PN 125	KSPN Foundations of Nursing*	4
PN 126	KSPN Foundations of Nursing Clinical*	2
Second Semester (Fall)		
PN 130	KSPN Nursing Care of Adults I*	4
PN 132	KSPN Nursing Care of Adult I Clinical*	2
PN 136	KSPN Fundamentals of Pharmacology and Safe Medication Administration*	2
Third Semester (Spring)		
PN 140	KSPN Maternal Child Nursing*	2
PN 141	KSPN Maternal Child Nursing Clinical*	1
PN 150	KSPN Nursing Care of Adults II*	4
PN 152	KSPN Nursing Care of Adults II Clinical*	2
Fourth Semester (Summer)		
PN 145	KSPN Mental Health Nursing*	2
PN 155	KSPN Care of Aging Adults*	2
PN 175	KSPN Leadership, Roles and Issues*	1
Total Hours		**28**

Total Program Hours: 42

*   This course has registration requirements.

Plumbing Technology

Plumbing Technology Program

Plumbing Technology Certificate **(**p. 332**)**

Plumbing Technology Certificate

The Plumbing Technology certificate program will provide students with an opportunity to develop marketable skills in the plumbing career field that is very rewarding. The program is designed to offer students an opportunity to acquire the fundamental skills and knowledge used in the plumbing trade.

The certificate prepares graduates to enter the plumbing industry. The core principles and concepts of the plumbing systems are cornerstones of each course. Classroom instruction and learning theories lead to individual and team building projects. Completion of the plumbing certificate program provides students with the educational background and the experiences needed to enter the plumbing career field.

Plumbing Technology Program web page (https://www.jccc.edu/academics/credit/plumbing/)

(Major Code 3200; CIP Code 46.0503)

Certificate Requirements

First Semester

Code	Title	Hours
CMGT 100	Industrial Safety/OSHA-30	3
COMS 155	Workplace Skills	1
PLUM 110	Introduction to Plumbing Systems	3
PLUM 125	Residential Plumbing	3
PLUM 130	Print Reading and Estimating	3
PLUM 140	Backflow Preventers	2
Total Hours		**15**

Second Semester

Code	Title	Hours
PLUM 210	DWV and Water Distribution*	3
PLUM 240	Installation, Maintenance and Repair*	3
PLUM 250	Commercial Plumbing*	3
PLUM 275	Plumbing Code*	3
PLUM 280	Plumbing Internship*	3
Total Hours		**15**

Total Program Hours: 30

* This course has registration requirements.

Railroad Industrial Technology

Railroad Industrial Technology Programs

Railroad Mechanical Welding Certificate

This certificate is designed to address the training needs of railway mechanical welders. Upon successful completion of this program, you should be able to demonstrate safe operating procedures for welding applications, perform skill competencies involving a variety of processes and positions, passcode welding requirements according to AWS D15.1, and perform welding operations as needed.

JCCC's railroad industrial technology certificate program is open to BNSF employees and/or approved students.
Enrollment is subject to the approval of the BNSF Railway training director and JCCC division administrator.

(Major Code 3190; CIP Code 49.0208)

Railroad Science Program web page (http://www.jccc.edu/academics/credit/railroad-science/)

Certificate Requirements

Required Courses

Code	Title	Hours
RRIT 160	Basic Welding*	3
RRIT 162	Structural Stick Welding*	3
RRIT 164	Structural Wire Welding*	3
RRIT 166	Mechanical Welding Air Brake Pipe*	3
or RRIT 168	Sheet Metal Welding*	
Total Hours		**12**

Total Program Hours: 12

*   This course has registration requirements.

Railroad Structural Welding Certificate

This certificate is designed to address the training needs of railway structural welders. Upon successful completion of this program, you should be able to demonstrate safe operating procedures for welding applications, perform skill competencies involving a variety of processes and positions, passcode welding requirements according to AWS D1.5 and/or D15.1, and perform welding operations as needed.

JCCC's railroad industrial technology certificate program is OPEN ONLY TO BNSF RAILWAY EMPLOYEES.

Enrollment is subject to the approval of the BNSF Railway training director and JCCC division administrator.

(Major Code 4530; CIP Code 49.0208)

Railroad Science Program web page (http://www.jccc.edu/academics/credit/railroad-science/)

Certificate Requirements

Required Courses

Code	Title	Hours
RRIT 142	Structural Pile Welding*	3
RRIT 160	Basic Welding*	3
RRIT 162	Structural Stick Welding*	3
RRIT 164	Structural Wire Welding*	3
Total Hours		**12**

Total Program Hours: 12

*   This course has registration requirements.

Railroad Track Welding Certificate

This certificate is designed to provide a concentrated program for industry-specific training in track maintenance and repairs. Upon successful completion of this program, you should have the ability to safely operate track welding equipment, perform basic and advanced welding operations, and complete specialized procedures as needed to perform the job of railway track welder.

Enrollment is subject to the approval of the BNSF Railway training director and JCCC division administrator.

(Major Code 4520; CIP Code 49.0208)

Railroad Science Program web page (http://www.jccc.edu/academics/credit/railroad-science/)

Certificate Requirements

Required Courses

Code	Title	Hours
RRIT 132	Thermite Welding*	3
RRIT 136	Rail and Switch Point Repair Welding*	3
RRIT 145	Frog Welding*	3
RRIT 160	Basic Welding*	3
Total Hours		**12**

Total Program Hours: 12

*   This course has registration requirements.

Railroad Operations

Railroad Operations Program

Railroad Conductor Certificate (p. 336)

Railroad Conductor Certificate

The railroad conductor certificate program prepares students for an exciting and well-paying career as a railroad conductor. The more than 500 companies that make up the United States railroad industry provide the country's freight and passenger transportation service on a network of some 300,000 route miles of track. Railroads employ a substantial workforce.

Railroad Science Program web page (http://www.jccc.edu/academics/credit/railroad-science/)

(Major Code 4410; CIP Code 49.0208)

Certificate Requirements

Required Courses

Code	Title	Hours
RRT 100	Introduction to the Railroad Industry	2
RRTC 123	Introduction to Conductor Service*	4
RRTC 175	Conductor Mechanical Operation*	2
RRTC 261	Conductor Service*	2
RRTC 263	General Code of Operating Rules*	4
RRTC 267	Conductor Field Application*	4
Total Hours		**18**

Total Program Hours: 18

*   This course has registration requirements.

Recording Arts

Recording Arts Program

Recording Arts Certificate

This certificate is designed to prepare students to work in the creative field of digital audio technology. Students will develop traditional recording studio skills along with skills needed to work with current digital audio technology. Students who complete the program will have a good foundation to find work as an audio engineer, a studio musician, a music producer, or a songwriter or composer.

Music & Recording Arts Program web page (http://www.jccc.edu/academics/credit/music-recording-arts/)

(Major Code 5090; CIP Code 24.0101)

Certificate Requirements

First Semester

Code	Title	Hours
MUS 156	MIDI Music Composition	2-3
or MUS 155	Introduction to the Recording Studio	
Total Hours		**2-3**

Second Semester

Code	Title	Hours
MUS 157	Introduction to Digital Audio*	3
Total Hours		**3**

Third Semester

Code	Title	Hours
MUS 158	Recording Studio I*	4
Total Hours		**4**

Fourth Semester

Code	Title	Hours
MUS 159	Recording Studio II*	4
Total Hours		**4**

Total Program Hours: 13-14

*   This course has registration requirements.

Respiratory Care

Respiratory Care Program

Respiratory Care, AAS (p. 338)

Respiratory Care, AAS

The respiratory therapist is involved in a variety of lifesaving and life-supporting situations. Respiratory therapists treat patients ranging in age from newborns to senior citizens in the prevention, treatment, management and rehabilitation of lung problems. Employment is typically in hospitals but is available in several other health delivery venues. The health care needs of an aging population will play a role in the future of respiratory care.

JCCC's associate of applied science program is accredited by the Commission on Accreditation for Respiratory Care (CoARC www.coarc.com). Graduates are eligible to take the National Board for Respiratory Care examination to earn the Registered Respiratory Therapist credential.

This is a selective admission program with limited enrollment. Prospective students are encouraged to visit the program website or contact JCCC program personnel for additional information and application materials at (913)469-2583.

Students must "pass" all clinical courses and maintain a grade of "C" or higher in all non-clinical courses to remain in the program.

(Major Code 237A; CIP Code 51.0908)

Respiratory Care Program web page (http://www.jccc.edu/academics/credit/respiratory-care/)

Associate of Applied Science Degree

Prerequisite Semester

Code	Title	Hours
BIOL 144	Human Anatomy and Physiology*	5
Note: BIOL 140 and BIOL 225 will satisfy the BIOL 144 requirement.		
CHEM 122	Principles of Chemistry*	5
Note: CHEM 124 and CHEM 125 will satisfy the CHEM 122 requirement.		
ENGL 121	Composition I*	3
MATH 116	Intermediate Algebra* (or higher)	3
Total Hours		**16**

First Semester

Code	Title	Hours
BIOL 230	Microbiology*	3
RC 120	Respiratory Structure and Function*	2
RC 124	Fundamentals of Respiratory Care*	6
RC 131	Cardiopulmonary Diagnostics*	3
Total Hours		**14**

Second Semester

Code	Title	Hours
RC 136	Cardiopulmonary Diseases*	3
RC 140	Respiratory Care Pharmacology*	2
RC 145	Cardiopulmonary Critical Care I*	5
RC 146	Pediatric/Neonatal Respiratory Care*	2
Total Hours		**12**

Third Semester

Code	Title	Hours
RC 255	Cardiopulmonary Critical Care II*	5
RC 271	Respiratory Care Clinical Experience I*	6
Social and Behavioral and Sciences Elective ^		3
Total Hours		**14**

Fourth Semester

Code	Title	Hours
RC 265	Respiratory Care Program Capstone*	3
RC 272	Respiratory Care Clinical Experience II*	6
Humanities Elective ^		3
Total Hours		**12**

Total Program Hours: 68

*   This course has registration requirements.
^   See all AAS general education electives (p. 180).

Sustainable Agriculture

Sustainable Agriculture Program

Sustainable Agriculture Certificate (p. 340)

Sustainable Agriculture Certificate

A certificate in Sustainable Agriculture introduces basic principles and hands on experience in production and marketing of locally grown food. Experiential and classroom learning will focus on principles of environmental, economic, and social sustainability emphasized through practicum courses, field trips, guest lectures, and engagement with local farming and food communities. Students will be prepared for beginning occupations in sustainable market farming, ecological farm management, local food policy or advocacy organizations, produce management, school garden management, or related fields.

(Major Code 5290; CIP Code 01.0308)

Sustainable Agriculture Program web page (http://www.jccc.edu/academics/credit/sustainable-agriculture/)

Certificate Requirements

Fall Semester

Code	Title	Hours
Program Elective (see below)		3
SAG 167	Local Food Production	3
or HMGT 167	Local Food Production	
SAG 245	Principles of Sustainable Market Farming	3
SAG 255	Organic and Integrated Pest Management	3
SAG 272	Sustainable Agriculture Fall Practicum	2
Total Hours		**14**

Spring Semester

Code	Title	Hours
Program Elective (see below)		3
SAG 165	Farm Producer Food Safety	3
SAG 260	Sustainable Soil Management	3
SAG 274	Sustainable Agriculture Spring Practicum	2
SAG 285	Sustainable Agriculture and Food Systems Internship*	2
Total Hours		**13**

Summer Semester

Code	Title	Hours
SAG 276	Sustainable Agriculture Summer Practicum	2
Total Hours		**2**

Total Program Hours: 29

Program Electives

Code	Title	Hours
SAG 142	Small Farm Business Planning and Management	3
SAG 170	Value-Added Production	3
or HMGT 170	Value-Added Production	
SAG 205	Agroecology in the Americas	3
SAG 225	On-Farm Plant Breeding	3
SAG 250	Sustainable Food Systems*	3

*   This course has registration requirements.

Web Technologies

Web Technologies Program

Short-Term Certificates

Two-Year Degree

Web Development and Digital Media, AAS

The Web Development and Digital Media 64-credit hour Associate of Applied Science degree is designed for students who wish to pursue careers in web development and digital media. This program teaches technologies and techniques involved in designing and developing websites, web applications, user experiences, and digital content necessary to capture audiences in our increasingly mobile world. The degree is designed to enhance skills and help students discover the specific discipline that best suits their talents and interests. The degree offers an exciting variety of course options in a hands-on learning environment. Students have access to state-of-the-art computer and production labs. Coursework includes analysis of real-world case studies and hands-on projects that allow students to apply the concepts and skills they have learned to realistic business situations. Students are prepared for a variety of positions as web developers, web designers, user experience developers, and digital media specialists.

(Major Code 2030; CIP Code 11.0801)

Web Development & Digital Media Program web page (http://www.jccc.edu/academics/credit/web-development-digital-media/)

Associate of Applied Science Degree

First Semester

Code	Title	Hours
IT 120	CompTIA A+ Core 2	3
WEB 110	HTML and CSS	3
WEB 112	Professional Skills for the Digital Developer	3
WEB 114	Web Scripting: JavaScript I*	2
WEB 116	Digital Media Concepts	2
WEB 118	Digital Workflow	3
Total Hours		**16**

Second Semester (Web Development Option)

Code	Title	Hours
WEB 120	Web Analytics*	3
WEB 122	CSS Techniques & Projects*	3
WEB 124	Web Scripting: JavaScript II*	2
WEB 126	Technical Interface Skills*	3
WEB 128	Server Scripting: PHP with MySQL*	2
WEB 239	Introduction to Application Programming Interfaces (APIs)*	2
Total Hours		**15**

Second Semester (Digital Media Option)

Code	Title	Hours
WEB 120	Web Analytics*	3
WEB 121	Digital Media Assets*	4

WEB 125	Digital Video Tools	1
WEB 126	Technical Interface Skills*	3
WEB 233	Visual Storytelling	3
WEB 243	Search Engine Optimization*	1
Total Hours		**15**

Third Semester (Web Development Option)

Code	Title	Hours
Program Elective (see below)		3
ENGL 121	Composition I*	3
WEB 234	Web Apps I*	3
or WEB 240	HTML and CSS II*	
WEB 238	Interactive Scripting: JQuery*	4
Social and Behavioral and Sciences Elective ^		3
Total Hours		**16**

Third Semester (Digital Media Option)

Code	Title	Hours
Program Elective (see below)		3
ENGL 121	Composition I*	3
WEB 231	User Experience*	4
WEB 237	Emerging Technologies*	3
Social and Behavioral and Sciences Elective ^		3
Total Hours		**16**

Fourth Semester (Web Development Option)

Code	Title	Hours
Program Elective (see below)		5
WEB 290	Web Development and Digital Media Capstone*	3
Communications Elective ^		3
NOTE: ENGL 140 is recommended		
Humanities Elective ^		3
Science or Math Elective ^		3
Total Hours		**17**

Fourth Semester (Digital Media Option)

Code	Title	Hours
Program Elective (see below)		5
WEB 290	Web Development and Digital Media Capstone*	3
Communications Elective ^		3
NOTE: ENGL 140 is recommended		
Humanities Elective ^		3
Science or Math Elective ^		3
Total Hours		**17**

Total Program Hours: 64

Program Electives

Code	Title	Hours
ANI 130	Motion Graphics and Effects*	3
CDTP 135	Desktop Photo Manipulation I: Photoshop*	1
CDTP 140	Desktop Publishing I: InDesign*	1

CDTP 145	Desktop Illustration I: Illustrator*	1
CDTP 155	Desktop Photo Manipulation II: Photoshop*	1
CDTP 160	Desktop Publishing II: InDesign*	1
CDTP 165	Desktop Illustration II: Illustrator*	1
CDTP 168	Desktop Publishing III: InDesign*	1
CDTP 175	Desktop Photo Manipulation III: Photoshop*	1
CDTP 185	Desktop Illustration III: Illustrator*	1
CDTP 190	Applications for Visual Design*	3
CS 134	Programming Fundamentals	4
CIS 124	Introduction to Computer Concepts and Applications	3
CIS 142	Beginning Programming using Python	4
CSS 105	Introduction to Personal Computers: Windows	1
CSS 106	Introduction to Personal Computers: Macintosh	1
CSS 128	PC Applications: MS Office	3
WEB 121	Digital Media Assets*	4
WEB 122	CSS Techniques & Projects*	3
WEB 124	Web Scripting: JavaScript II*	2
WEB 125	Digital Video Tools	1
WEB 128	Server Scripting: PHP with MySQL*	2
WEB 172	WordPress I*	1
WEB 231	User Experience*	4
WEB 233	Visual Storytelling	3
WEB 237	Emerging Technologies*	3
WEB 239	Introduction to Application Programming Interfaces (APIs)*	2
WEB 243	Search Engine Optimization*	1
WEB 245	Motion Graphics Tools*	1
WEB 292	Special Topics:*	1-3
WEB 294	Web Development and Digital Media Internship*	1

*   This course has registration requirements.

^   See all AAS general education electives (p. 180).

Digital Media Certificate

The Digital Media 31-credit hour certificate offers students foundational knowledge applicable to a wide range of current media-related professions. This certificate is intended for individuals who would like to gain knowledge and training through content creation courses in hands-on labs. The program is ideal for participants seeking to build digital media production skills. Upon completion of the certificate, students may enter the workforce in the field of digital media content creation. With one more year of study students can complete their Web Development and Digital Media Associate of Applied Science degree.

(Major Code 6770; CIP Code 11.0801)

Web Development & Digital Media Program web page (http://www.jccc.edu/academics/credit/web-development-digital-media/)

Certificate Requirements

First Semester

Code	Title	Hours
IT 120	CompTIA A+ Core 2	3
WEB 110	HTML and CSS	3
WEB 112	Professional Skills for the Digital Developer	3
WEB 114	Web Scripting: JavaScript I*	2
WEB 116	Digital Media Concepts	2
WEB 118	Digital Workflow	3
Total Hours		**16**

Second Semester

Code	Title	Hours
WEB 120	Web Analytics*	3
WEB 121	Digital Media Assets*	4
WEB 125	Digital Video Tools	1
WEB 126	Technical Interface Skills*	3
WEB 233	Visual Storytelling	3
WEB 243	Search Engine Optimization*	1
Total Hours		**15**

Total Program Hours: 31

*   This course has registration requirements.

Web Development Certificate

The Web Development 31-credit hour certificate prepares students for careers as professional web developers. This certificate goes deeper into the technical aspects of web development. Students learn strategies for making effective use of the web by building, designing and programming web pages and maintaining sites to meet business needs. Upon completion of this certificate, students may enter the workforce in the field of web development. With one more year of study, students can complete their Web Development and Digital Media Associate of Applied Science (p. 342) degree.

(Major Code 6780; CIP Code 11.0801)

Web Development & Digital Media Program web page (http://www.jccc.edu/academics/credit/web-development-digital-media/)

Certificate Requirements

First Semester

Code	Title	Hours
IT 120	CompTIA A+ Core 2	3
WEB 110	HTML and CSS	3
WEB 112	Professional Skills for the Digital Developer	3
WEB 114	Web Scripting: JavaScript I*	2
WEB 116	Digital Media Concepts	2
WEB 118	Digital Workflow	3
Total Hours		**16**

Second Semester

Code	Title	Hours
WEB 120	Web Analytics*	3
WEB 122	CSS Techniques & Projects*	3
WEB 124	Web Scripting: JavaScript II*	2
WEB 126	Technical Interface Skills*	3
WEB 128	Server Scripting: PHP with MySQL*	2
WEB 239	Introduction to Application Programming Interfaces (APIs)*	2
Total Hours		**15**

Total Program Hours: 31

* This course has registration requirements.

Web Technologies Certificate

The Web Technologies 16-credit hour certificate is designed as a starting point for students to pursue a career in a web-related field. The certificate provides foundational technical skills needed to prepare them for a career in a web-related occupation. Students learn how to combine critical thinking with the appropriate methodology to create and maintain web pages. This certificate exclusively emphasizes technical coursework. Upon completion of the certificate, students may enter the workforce in an entry-level web development position or continue their studies.

(Major Code 6760; CIP Code 11.0801)

Web Development & Digital Media Program web page (http://www.jccc.edu/academics/credit/web-development-digital-media/)

Certificate Requirements

Required Courses

Code	Title	Hours
IT 120	CompTIA A+ Core 2	3
WEB 110	HTML and CSS	3
WEB 112	Professional Skills for the Digital Developer	3
WEB 114	Web Scripting: JavaScript I*	2
WEB 116	Digital Media Concepts	2
WEB 118	Digital Workflow	3
Total Hours		**16**

Total Program Hours: 16

*   This course has registration requirements.

Past Catalogs

PDF Catalog Archives

2024-2025 Academic Year (https://catalog.jccc.edu/pastcatalogspdf/jccc-catalog-ay-2024-25-final-051324.pdf)

2023-2024 Academic Year (https://catalog.jccc.edu/pastcatalogspdf/JCCC_Catalog_-_Academic_Year_2023-2024_-3.pdf)

2022-2023 Academic Year (https://catalog.jccc.edu/pdf/2022-23.pdf)

2021-2022 Academic Year (https://catalog.jccc.edu/pastcatalogspdf/ay-2021-22-3.pdf)

2020-2021 Academic Year (https://catalog.jccc.edu/pastcatalogspdf/jccc-catalog-ay-2020-21.pdf)

2019-2020 Academic Year (https://catalog.jccc.edu/pastcatalogspdf/jccc-catalog-2019-20.pdf)

2018-2019 Academic Year (https://catalog.jccc.edu/pdf/2018-19.pdf)

2017-2018 Academic Year (https://catalog.jccc.edu/pdf/2017-18.pdf)

2016-2017 Academic Year (https://catalog.jccc.edu/pdf/2016-17.pdf)

2015-2016 Academic Year (https://catalog.jccc.edu/pdf/2015-16.pdf)

2015-Spring (https://catalog.jccc.edu/pastcatalogspdf/jccc-catalog-spring-2015.pdf)

2014-Spring (https://catalog.jccc.edu/pdf/2014-spring.pdf)
2014-Fall (https://catalog.jccc.edu/pastcatalogspdf/jccc-catalog-fall-2014.pdf)

2013-Fall (https://catalog.jccc.edu/pdf/2013-fall.pdf)
2013-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2013.pdf)

2012-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2012.pdf)
2012-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2012.pdf)

2011-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2011.pdf)
2011-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2011.pdf)

2010-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2010.pdf)
2010-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2010.pdf)

2009-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2009.pdf)
2009-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2009.pdf)

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2008-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2008.pdf)

2007-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2007.pdf)
2007-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2007.pdf)

2006-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2006.pdf)
2006-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2006.pdf)

2005-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2005.pdf)
2005-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2005.pdf)

2004-Fall (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2004.pdf)
2004-Spring (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Spring_2004.pdf)

Fall 2003 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_Fall_2003.pdf)

2002-2003 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_2002-2003.pdf)

2001-2002 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_2001-2002.pdf)

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1990-1992 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1990-1992.pdf)

1988-1989 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1988-1989.pdf)

1987-1988 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1987-1988.pdf)

1986-1987 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1986-1987.pdf)

1985-1986 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1985-1986.pdf)

1984-1985 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1984-1985.pdf)

1983-1984 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1983-1984.pdf)

1982-1983 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1982-1983.pdf)

1981-1982 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1981-1982.pdf)

1980-1981 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1980-1981.pdf)

1979-1980 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1979-1980.pdf)

1978-1979 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1978-1979.pdf)

1977-1978 (https://catalog.jccc.edu/pastcatalogspdf/jccc-catalog-1977-1978.pdf)

1976-1977 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1976-1977.pdf)

1975-1976 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1975-1976.pdf)

1974-1975 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1974-1975.pdf)

1973-1974 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1973-1974.pdf)

1972-1973 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1972-1973.pdf)

1971-1972 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1971-1972.pdf)

1969-1970 (https://catalog.jccc.edu/pastcatalogspdf/JCCC_archive_1969-1970.pdf)

Archived Catalog Sites

2023-2024 Academic Year (https://catalog.jccc.edu/archives/2023-24/)

2022-2023 Academic Year (https://catalog.jccc.edu/archives/2022-23/)

2021-2022 Academic Year (https://catalog.jccc.edu/archives/2021-22/)

2020-2021 Academic Year (https://catalog.jccc.edu/archives/2020-21/)

2019-2020 Academic Year (https://catalog.jccc.edu/archives/2019-20/)

2018-2019 Academic Year (https://catalog.jccc.edu/archives/2018-19/)

2017-2018 Academic Year (https://catalog.jccc.edu/archives/2017-18/)

Accessibility

JCCC provides a range of services to allow persons with disabilities to participate in educational programs and activities. If you are a student with a disability in need of accommodations or services, it is your responsibility to contact Access Services and make a formal request.

- To schedule an appointment with an Access Advisor or for additional information, email Access Services (accessservices@jccc.edu) or call 913-469-3521.

- Access Services is located on the 2nd floor of the Student Center (SC 202).

Helpful links

- Access Services (https://www.jccc.edu/student-resources/access-services/) — The JCCC department provides services to students with disabilities.

- Technical Support Center (http://www.jccc.edu/student-resources/technical-support/) — If you are having trouble with technology, the TSC may be able to help.

- Parking Locations (http://www.jccc.edu/about/campus/maps/parking.html) — Review and download a map of parking areas and accessible entrances.

- Americans with Disabilities Act (ADA) Information (https://www.jccc.edu/about/leadership-governance/administration/human-resources/employee-benefits-leaves/ada.html) — Information for current and prospective employees.

- Website Publishing Guidelines and Accessibility (https://www.jccc.edu/about/leadership-governance/policies/web-accessibility.html)

Accreditation

Accreditation

Johnson County Community College is accredited by The Higher Learning Commission (http://www.hlcommission.org), (312)263-0456 (see also JCCC Accreditation (https://www.jccc.edu/about/accreditation/)). In addition, individual programs are accredited by associated professional organizations:

- Accounting, Business Office Technology, Business Administration, and Marketing Management: Accreditation Council for Business Schools and Programs (ACBSP)

- Automotive Technology: Automotive Service Excellence (ASE) Education Foundation

- Chef Apprentice, Hotel and Lodging Management, and Pastry and Baking: American Culinary Federation (AFC)

- College Now: National Alliance of Concurrent Enrollment Partnerships (NACEP)

- Dental Hygiene: American Dental Association Commission on Dental Accreditation (CODA)

- Dietary Manager: Association of Nutrition and Foodservice Professionals (ANFP)

- Fire Service Administration: International Fire Service Accreditation Congress (IFSAC)

- Health Information Systems: Healthcare Information and Management Systems Society (HIMSS)

- Heating, Ventilation and Air Conditioning Technology: Partnership for Air-Conditioning, Heating, Refrigeration Accreditation (PAHRA), Residential Heating and Air-Conditioning

- Information Technology - Networking: National Center of Academic Excellence in Cyber Defense (CAE-CD) designation by the National Security Agency (NSA) and Department of Homeland Security (DHS)

- Neurodiagnostic Technology: Commission on Accreditation of Allied Health Education Programs (CAAHEP)

- Nursing: Kansas State Board of Nursing (KSBN) and Accreditation Commission for Education in Nursing (ACEN), Inc.

- Paralegal: Approved by the American Bar Association (ABA)

- Paramedic: Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP)

- Police Academy: University of Kansas

- Practical Nursing: Approved by the Kansas State Board of Nursing (KSBN)

- Respiratory Care: Commission on Accreditation for Respiratory Care (CoARC)

Professional Licensure

In compliance with U.S. Department of Education regulations, JCCC provides information about professional licensure and certification (https://www.jccc.edu/about/leadership-governance/policies/professional-licensure.html) for all relevant programs.

Non-Discrimination Statement

Non-Discrimination Statement

JCCC is dedicated to providing equal opportunities and equal access to all individuals and is an affirmative action employer. JCCC does not discriminate on the basis of sex, race, color, national origin, disability, age, religion, marital status, parental status, military status, veteran status, sexual orientation, gender identity, genetic information or other factors that cannot be lawfully considered in its programs and activities, which includes employment and admissions, in accordance with Titles VI and VII of the Civil Rights Act of 1964, the Equal Pay Act of 1963, the Age Discrimination in Employment Act of 1967, the Age Discrimination Act of 1975, Executive Order 11246, Title IX of the Education Amendments of 1972, Section 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, the Vietnam Era Veteran's Readjustment Assistance Act, the Jobs for Veterans Act of 2002, the Kansas Acts Against Discrimination and all other applicable civil rights and nondiscrimination laws.

Inquiries concerning JCCC's compliance with its nondiscrimination policies (including Title IX, Title VI and Section 504 inquiries) may be referred to a Title IX Coordinator (TitleIX@jccc.edu), or Director of Human Resources, or the Dean of Students and Learner Engagement at JCCC, 12345 College Blvd, Overland Park, KS 66210, 913-469-8500; or to Office for Civil Rights, Kansas City Office, U.S. Department of Education, One Petticoat Lane, 1010 Walnut Street, Suite 320, Kansas City, MO 64106, 816-268-0550, Fax: 816-268-0559,OCR.KansasCity@ed.gov.

Ethics Report Line (https://www.jccc.edu/about/leadership-governance/administration/audit-advisory/ethics-line/) - A resource for college employees to report ethical issues in confidence.

College Policies (https://www.jccc.edu/about/leadership-governance/policies/) - A detailed list of policies approved by the JCCC board of trustees.

Title IX - Report Sexual Harassment/Misconduct

Students and/or employees will be made aware of, in writing, the existing counseling, health, mental health, victim advocacy, legal assistance, visa and immigration assistance, student financial aid and other services available for victims, both within the institution and the community. If applicable, further information about assistance availed with academic, living, transportation, working situations and protective measures can be discussed.

Read more about JCCC and Title IX (https://www.jccc.edu/student-resources/police-safety/know/report-sexual-misconduct.html)

If you need to discuss or file a complaint about student sexual misconduct, please contact the following individuals.

For Students

JCCC Title IX Coordinators are trained in Title IX, Clery regulations and responding to reports of sexual misconduct and harassment:

Cathy Almai-Mahurin, Dean of Students and Learner Engagement
Johnson County Community College
12345 College Blvd.
Overland Park, KS 66210
913-469-3409 | cmahuri2@jccc.edu | SC 325B

Anne Turney, Director, Student Life and Leadership
Johnson County Community College
12345 College Blvd.
Overland Park, KS 66210
913-469-3534 | aturney1@jccc.edu | COM 100

Involving Employees

Sean Burkett, Interim Director, Human Resources
Johnson County Community College
12345 College Blvd.
Overland Park, KS 66210
913-469-8500, ext. 3690 | sburkett@jccc.edu | GEB 275

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