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 for work as managers, inspectors, field supervisors, and estimators in small and mid-size construction companies. An associate of applied science degree is awarded upon the successful completion of 64 credit hours.

(Major Code 2310; State CIP Code 52.2001)

- Civil Engineering Technology (http://www.jccc.edu/civilengineering)

Associate of Applied Science Degree

First Semester

Program Elective (see below)		3
CET 105	Construction Methods	3
CET 125	Construction Specifications*	2
DRAF 129	Interpreting Architectural Drawings	2
ENGL 121	Composition I*	3
MATH 116	Intermediate Algebra*	3
Total Hours		16

Second Semester

ACCT 111	Small Business Accounting	3
or ACCT 121	Accounting I	
CET 123	Building Codes	3
CET 129	Construction Management	3
CET 205	Advanced Construction Methods*	3
INDT 155	Workplace Skills	1
Social Science and/or Economics Elective ^		3
Total Hours		16

^ Social Science and/or Economics Elective (http://catalog.jccc.edu/fall/degreecertificates/electives/social-sci-econ-aas)

Third Semester

CET 150	Construction Safety	3
CET 160	Green Building Fundamentals	3
CET 227	Construction Cost Estimating*	3
CET 229	Advanced Construction Management*	3
DRAF 143	Introduction to BIM Building Information Modeling*	2
Health and/or Physical Education ^		1
Total Hours		15

^ Health and/or Physical Education (http://catalog.jccc.edu/fall/degreecertificates/electives/health-and-or-physical-ed-aas)

Fourth Semester

Program Elective (see below)		3
BUS 140	Principles of Supervision	3
CET 140	Civil Engineering Materials*	3
CET 225	Construction Documents*	2
Communications, Science, or Math Elective ^		3

Humanities Elective ^^	3
Total Hours	17

^ Communications, Science, or Math Elective (http://catalog.jccc.edu/fall/degreecertificates/electives/communications-sci-math-aas)

^^ Humanities Elective (http://catalog.jccc.edu/fall/degreecertificates/electives/humanities-aas)

Program Electives

BUS 120	Management Attitudes and Motivation	3
BUS 141	Principles of Management	3
BUS 145	Small Business Management	3
BUS 150	Business Communications*	3
BUS 243	Human Resource Management	3
BUS 261	Business Law I*	3
CET 271	Construction Management Internship I*	3
CET 272	Construction Management Internship II*	3
CPCA 105	Introduction to Personal Computers: Windows	1
CPCA 108	Word Processing I: MS Word*	1
CPCA 110	Spreadsheets I: MS Excel*	1
CPCA 121	Introduction to Project Management*	1
CPCA 128	PC Applications: MS Office	3
DRAF 130	Introduction to CAD Concepts - AutoCAD*	3
DRAF 132	Exploring AutoCAD	3
DRAF 225	Civil Drafting*	3
DRAF 230	Intermediate CAD: AutoCAD*	3
DRAF 244	Civil 3D*	2
DRAF 250	Electrical Drafting*	3
DRAF 252	Structural Design and Drafting*	3
DRAF 264	CAD:Interior Design*	3
DRAF 271	Drafting Internship I*	3
DRAF 272	Drafting Internship II*	3
ELTE 122	National Electrical Code I	4
ENGR 131	Engineering Graphics I:AutoCAD*	4
ENGR 180	Engineering Land Surveying I*	3
ENTR 120	Introduction to Entrepreneurship	2
ENTR 142	Fast Trac Business Plan	3
ENTR 180	Opportunity Analysis	2
EPRM 120	Introduction to Residential Energy	3
EPRM 142	Solar Thermal Systems	3
SPD 120	Interpersonal Communication	3

Total Program Hours: 64

Courses

CET 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 civil and building construction. This course is typically offered the first half of each semester. 3 hrs. lecture/wk.

CET 123 Building Codes (3 Hours)
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. This course is offered in the spring semester. 3 hrs. lecture/wk.

CET 125 Construction Specifications* (2 Hours)
Prerequisites or corequisites: CET 105 or equivalent

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, categorize the drawings, write specifications, list warranties and explain contract modifications. 2 hrs. lecture/wk.

CET 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.

CET 140 Civil Engineering Materials* (3 Hours)
Prerequisites or corequisites: MATH 116 or higher

Upon successful completion of this course, the student will be able to analyze materials commonly used in civil engineering 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 ASTM guidelines. This course is typically offered in the spring semester. 2 hrs. lecture, 3 hrs. lab/wk.

CET 150 Construction Safety (3 Hours)
This course introduces the student to construction safety policies, procedures, and standards. Topics include safety theories and concepts, OSHA (Occupational Safety and Health Administration) construction standards for safety and health, and safety application on the job site. Special emphasis is placed on those areas that are the most hazardous, using OSHA standards as a guide. Upon successful completion of the course, including attendance and grade requirements, the student may be eligible for the OSHA Construction Health and Safety Training card. 3 hr. lecture/wk.

CET 160 Green Building Fundamentals (3 Hours)
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 standard practices used by industry professionals, as well as, to provide students preparation 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. 3 hrs. lecture/wk. This course is typically offered in the fall semester.

CET 205 Advanced Construction Methods* (3 Hours)
Prerequisites: CET 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. This course is offered in the spring semester. 3 hrs. lecture/wk.

CET 211 Technical Statics and Design* (3 Hours)
Prerequisites: MATH 131 or MATH 172 or MATH 173 or MATH 241

Upon successful completion of this course, the student should be able to evaluate and design force systems in equilibrium. Topics include truss analysis, stress and strain, shear, loading conditions, steel member selection, and connection design. Computer applications are included. This course is typically offered in the fall semester. 3 hrs. lecture/wk.

CET 225 Construction Documents* (2 Hours)
Prerequisites: CET 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. This course is offered in the spring semester. 2 hrs. lecture/wk.

CET 227 Construction Cost Estimating* (3 Hours)
Prerequisites: CET 105 and CET 125 or department approval

Prerequisites or corequisites: DRAF 129 or department approval

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, tables and the Construction Specifications Institute (C.S.I.) format and preparing estimating reports. Students will use industry-standard software for construction estimating. The student needs a basic knowledge of spreadsheet software to be successful in this course. 2 hrs. lecture & 3 hrs lab/wk.

CET 229 Advanced Construction Management* (3 Hours)
Prerequisites: CET 129 and MATH 116 or higher

This course builds on the introductory construction management course. 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. This course is offered in the fall semester. 3 hrs. lecture/wk.

CET 270 Fluid Mechanics* (3 Hours)
Prerequisites: MATH 131 or MATH 172

Upon successful completion of this course, the student should be able to analyze fluid systems using the fundamental properties of pressure, hydrostatic force, buoyancy, flow in pipes, open channel flow, hydrology, and stormwater best management practices (BMP.) The student should also be able to solve practical problems related to engineering technology. Computer applications will be included. This course is typically offered in the spring semester. 3 hrs. lecture/wk.

CET 271 Construction Management Internship I* (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.

CET 272 Construction Management Internship II* (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.