

# Geographic Information Systems Certificate

The Geographic Information Systems Certificate program is granted by Metropolitan Community College, but coordinated at JCCC.

This is a professional certificate that gives the GIS user the tools needed to attract a good job in the exciting field of GIS or to advance in their chosen field. It also prepares students to complete their AA degree or transfer to a four year institution. GIS professionals are found in the fields of city, county and state business, economics, natural resources, conservation, pollution, industry, science, infrastructure planners, public works, transportation, architects, education, healthcare, travel, space industry.

The JCCC geographic information systems program is offered to Johnson County residents in cooperation with Metropolitan Community Colleges of Kansas City. Related courses are taken at JCCC. You must be accepted as a student to JCCC and accepted into the program by MCC. Students must be residents of Johnson County in order to receive in-state tuition rates. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact [www.mcckc.edu](http://www.mcckc.edu) (<http://www.mcckc.edu>). Required GIS classes are taught at MCC-Longview and MCC-Maple Woods Community Colleges as early evening courses. Visit <http://mcckc.edu/>

Note: Johnson County Community College students should seek specific counsel from the MCC program personnel for the appropriate course plan and numbers.

Johnson County Community College students should refer to Cooperative Program Information (<http://www.jccc.edu/cooperative>).

## Certificate granted by Metropolitan Community College

### Specific Program Requirements-must be taken MCC

COLL 100	First Year Seminar	1
GEOG 120	Introduction to Geographic Information Systems	3
GEOG 220	Geographic Info Systems Database & Design	3
GEOG 224	Applications in Geographic Information Systems	3
GEOG 228	Administrative Issues in Geographic Info Systems	3
GEOG 230	Geographic Information Systems Internship	1-3

Note: A student currently employed in a GIS Facility may take the 1-hour option. All others must complete the 3-hour internship.

### Specific Program Requirements-must be taken at JCCC

ENGL 121	Composition I*	3
GEOS 145	World Regional Geography	3
GEOS 130	General Geology	5
or GEOS 140 & GEOS 141	Physical Geography and Physical Geography Lab*	

### Specific Program Requirements-taken at JCCC or MCC

Choose ONE course from the following list: 3-4

CIS 162	Database Programming*
CIS 260	Database Management*
CSIS 128	Web Development - MCC course
CSIS 144	Introduction to SQL with Oracle - MCC course

### Select two courses from the following list:

ADMJ 121	Introduction to Administration of Justice	3
BIOL 121	Introductory Biology for Non-Majors	4
BIOL 125	General Botany	5
BIOL 127	General Zoology	5
BIOL 130 & BIOL 131	Environmental Science and Environmental Science Lab*	4
MKT 230	Marketing	3

DRAF 120 & DRAF 130	Introduction to Drafting and Introduction to CAD Concepts - AutoCAD*	5
Note: DRAF 120 and DRAF 130 must both be taken and count for only ONE course.		
ECON 230	Economics I	3
ECON 231	Economics II	3
CIS 162 or CIS 260	Database Programming* Database Management*	4
GEOS 140 & GEOS 141	Physical Geography and Physical Geography Lab*	5

**Total Program Hours: 34-42**

## 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. 4 hrs. lecture, 3 hrs. lab/wk.

### GEOS 130H HON: General Geology (1 Hour)

One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

### 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. 3 hrs. lecture/wk.

### GEOS 140H HON: Physical Geography (1 Hour)

One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

### GEOS 141 Physical Geography Lab\* (2 Hours)

**Prerequisites or corequisites:** GEOS 140 or the equivalent

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. 4 hrs. lab/wk.

### GEOS 145 World Regional Geography (3 Hours)

In this introductory course, the student will first review the basic theories of the discipline of geography, the relationship of world population and resources and the factors affecting development. Next, the student will survey the major regions of the world to identify each region's distinguishing geographic characteristics, summarize its past development and explain the key issues affecting the region's future development. 3 hrs. lecture/wk.

### GEOS 145H HON: World Regional Geography (1 Hour)

One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

### GEOS 214 Introduction to Teaching Math and Science I\* (1 Hour)

**Prerequisites:** MATH 171 with a grade of "C" or higher OR appropriate score on the math placement test OR department approval

This course allows math and science students to explore and develop an appreciation for teaching as a career. To support their learning, students will be introduced to the theory and practice that is necessary to design and deliver quality instruction. They will plan and implement lessons of an inquiry-based curriculum in an elementary classroom during the semester. MATH 214, ASTR 214, BIOL 214, CHEM 214, GEOS 214, PHYS 214 and PSCI 214 are the same course; enroll in only one. 1.25 hrs. lecture/wk.