2018-2019 PROGRAM REQUIREMENTS
Award: Professional Certificate
Program of Study: Geographic Information Science and Technology

About This Major . . .
The Physical and Environmental Sciences (PES) Department at Colorado Mesa University offers a certificate in Geographic Information Science and Technology. The courses are open to all students interested in broadening their knowledge and enhancing job-related skills in a rapidly expanding market of computer-based technology. The multidisciplinary nature of the geographic information science and technology allows students from a wide variety of fields to participate in this exciting program.

Geographic Information Science and Technology includes Geographic Information Systems, Global Positioning Systems, and Remote Sensing. A geographic information system (GIS) is a computer-based tool for mapping and analyzing geospatial data. GIS technology is a special case of information systems where the database consists of features, activities, or events that are definable in space as points, lines, or areas. GPS (Global Positioning System) is a satellite system that allows users to collect precise geographic data for use in mapping. Remote sensing refers to any technique whereby information about objects and the environment is obtained from a distance such as aircraft or satellites. The remote sensing often permits us to greatly expand our spectral view of the earth and "see" the world much more clearly than we can with the unaided eye.

Demand is strong for people who are trained in Geographic Information Science and Technology. This certificate will assist students in securing jobs in this rapidly growing field. GIS/GPS can be used for cartography, business, biology, geology, environmental science, history, archeology, and criminal justice.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/career/whatmajor.html.

Advising Process and DegreeWorks
This document is intended for informational purposes to help determine what courses and associated requirements are needed to earn a certificate. Some courses are critical to complete in specific semesters while others may be moved around. Meeting with an academic advisor is essential in planning courses and discussing the suggested course sequencing. It is ultimately the student's responsibility to understand and fulfill the requirements for her/his intended certificate.

DegreeWorks is an online degree audit tool available in MAVzone. It is the official record used by the Registrar's Office to evaluate progress towards a certificate and determine eligibility for graduation. Students are responsible for reviewing their DegreeWorks audit on a regular basis and should discuss questions or concerns with their advisor or academic department head. Discrepancies in requirements should be reported to the Registrar's Office.

Graduation Process
Students must complete the following in the first two months of the semester prior to completing their certificate requirements (for one semester certificates complete in the first week of class):

- Review their DegreeWorks audit and create a plan that outlines how unmet requirements will be met in the final semester.
- Meet with their advisor and modify their plan as needed. The advisor must approve the final plan.
- Submit the "Intent to Graduate" form to the Registrar's Office to officially declare the intended graduation date and commencement ceremony plans.
- Register for all needed courses and complete all requirements for each degree sought.

Submission deadlines and commencement details can be found at http://www.coloradomesa.edu/registrar/graduation.html.

If your petition for graduation is denied, it will be your responsibility to apply for graduation in a subsequent semester. Your "Intent to Graduate" does not automatically move to a later graduation date.

INSTITUTIONAL CERTIFICATE REQUIREMENTS

The following institutional requirements apply to all CMU professional certificates. Specific programs may have different requirements that must be met in addition to institutional requirements.

- Consists of 5-59 semester hours.
- Primarily 300-400 level courses.
- At least fifty percent of the credit hours must be taken at CMU.
- 2.00 cumulative GPA or higher in all CMU coursework.
- A course may only be used to fulfill one requirement for each degree/certificate.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- Capstone exit assessment/projects (e.g., Major Field Achievement Test) requirements are identified under Program-Specific Certificate Requirements.
- The Catalog Year determines which program sheet and certificate requirements a student must fulfill in order to graduate. Visit with your advisor or academic department to determine which catalog year and program requirements you should follow.
- See "Requirements for Undergraduate Degrees and Certificates" in the catalog for a complete list of graduation requirements.

PROGRAM-SPECIFIC CERTIFICATE REQUIREMENTS

- 16-18 semester hours for the Professional Certificate in Geographic Information Science and Technology.
- A GPA of 2.00 or higher in the certificate is required.
- At least 33 percent of the credit hours required for the certificate must be in courses numbered 300 or above.

PROFESSIONAL CERTIFICATE: GEOGRAPHIC INFORMATION SYSTEMS & TECHNOLOGY REQUIREMENTS (16-18 semester hours)

- ☐ One of the following courses:
  GIST 305 – Cartography for GIS (1)
  GEOG 131 – Introduction to Cartography (3)
- ☐ GIST 332 – Introduction to GIS (2)
- ☐ GIST 332L– Introduction to GIS Laboratory (1)
- ☐ GIST 422 - GIS Data Management and Editing (2)
- ☐ GIST 422L - GIS Data Management and Editing Laboratory (1)
- ☐ GIST 432 - Spatial Analysis and Modeling in GIS (2)
- ☐ GIST 432L - Spatial Analysis and Modeling in GIS Laboratory (1)

Choose a minimum of six semester hours from the following:

- ☐ CIVE 212 - Introduction to Geomatics (3)
- ☐ CSCI 110 - Beginning Programming (3) (must be Python section)
- ☐ GIST 321 – Introduction to Remote Sensing (2)
- ☐ GIST 321L – Introduction to Remote Sensing Laboratory (1)
- ☐ GIST 375 – Global Positioning Systems for GIS (2)
- ☐ GIST 375L - Global Positioning Systems for GIS Laboratory (1)
- ☐ XXXX 395 - Independent Study (must have a GIS focus and be approved by the GIS program advisor)
- ☐ XXXX 495 - Independent Study (must have a GIS focus and be approved by the GIS program advisor)
- ☐ XXXX 497 - Structured Research (must have a GIS focus and be approved by the GIS program advisor)