2018-2019 PROGRAM REQUIREMENTS
Degree: Associate of Applied Science
Program of Study: Land Surveying and Geomatics

About This Major . . .
The Land Surveying and Geomatics program prepares students to use equipment that is an integral part of land development for areas of engineering, construction projects and planning. Students learn to measure elevations, use equipment to measure on or below the surface and use technology to process data. The students will gain the knowledge that is needed for state certification.

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

All CMU associate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to: (1) Graduates of this two-year program will be prepared to qualify as a land surveyor intern under C.R.S. 12-25-212 (3) (a) (II) (A) have graduated from a board-approved two-year surveying curriculum; and (B) Have a cumulative record of two years or more of progressive land surveying experience. Graduates with previous or concurrent work experience during their program of study would qualify to take the fundamentals of surveying exam as outlined by statute. A student without the requisite experience would sit for the exam after his/her completion of the two-year progressive work experience requirement.
Specifically, graduates will…

1. Demonstrate the fundamentals of land surveying;
2. Describe the components and use of Global Positioning Systems (GPS) and Geographical Information Systems (GIS) and be able to gather and analyze data from these systems;
3. Demonstrate and describe competently use spreadsheets and other relevant computer programs (CAD and industry specific software programs) to provide accurate surveying analytics;
4. Demonstrate and apply higher level mathematical concepts that are necessary to complete complex survey tasks (analytical geometry, upper level algebra, calculus, statistics);
5. Describe the Common Law roots of Boundary Law, its importance in maintaining accurate records and be able to apply those principles in surveying.

Advising Process and DegreeWorks
This document is intended for informational purposes to help determine what courses and associated requirements are needed to earn a degree. The suggested course sequencing outlines how students could finish degree requirements. 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 altering the suggested course sequencing. It is ultimately the student's responsibility to understand and fulfill the requirements for her/his intended degree(s).

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 degree 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 degree requirements:

- 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 a student's petition for graduation is denied, it will be her/his responsibility to consult the Registrar's Office regarding next steps.

INSTITUTIONAL DEGREE REQUIREMENTS

The following institutional degree requirements apply to all CMU/WCCC Associate of Applied Science (AAS) degrees. Specific programs may have different requirements that must be met in addition to institutional requirements.

- 60 semester hours minimum.
- Students must complete a minimum of 15 of the final 30 semester hours of credit at CMU/WCCC.
- 2.00 cumulative GPA or higher in all CMU/WCCC coursework.
- A course may only be used to fulfill one requirement for each degree/certificate.
- No more than six semester hours of independent study courses can be used toward the degree.
- Non-traditional credit, such as advanced placement, credit by examination, credit for prior learning, cooperative education and internships, cannot exceed 20 semester credit hours for an AAS degree.
- 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 Degree Requirements.
- The Catalog Year determines which program sheet and degree 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 DEGREE REQUIREMENTS

- A grade of “C” or higher must be achieved in coursework toward major content area.

ESSENTIAL LEARNING REQUIREMENTS (15 semester hours)
See the current catalog for a list of courses that fulfill the requirements below. If a course is an Essential Learning option and a requirement for your major, you must use it to fulfill the major requirement and make a different selection for the Essential Learning requirement.

Communication (6 semester hours)
- ☐ ENGL 111 - English Composition (3)
- ☐ Select one of the following courses:
  ENGL 112 - English Composition (3)
  SPCH 101 - Interpersonal Communication (3)
  SPCH 102 - Speechmaking (3)

Mathematics (3 semester hours)
- ☐ MATH 130 - Trigonometry (3)

Other Essential Learning Core Courses (6 semester hours)
- ☐ PHYS 111 - General Physics (4)
- ☐ PHYS 111L - General Physics Laboratory (1)
- ☐ Select one Social and Behavioral Sciences, Natural Sciences, Fine Arts or Humanities course (1)

OTHER LOWER-DIVISION REQUIREMENTS

Wellness Requirement (2 semester hours)
- ☐ KINE 100 - Health and Wellness (1)
- ☐ Select one Activity course (1)

AAS: LAND SURVEYING AND GEOMATICS REQUIREMENTS (42 semester hours, must complete with a grade of "C" or higher.)
- ☐ CADT 107 - Advanced CAD (3)
- ☐ CADT 130 - CAD: Civil (3)
- ☐ GEOG 131 - Introduction to Cartography (3)
- ☐ GIST 332 - Introduction to GIS (2)
- ☐ GIST 332L - Introduction to GIS Laboratory (1)
- ☐ MATH 141 - Analytical Geometry (3)
- ☐ STAT 200 - Probability and Statistics (3)
- ☐ SURV 100 - Introduction to Surveying/Field Work (3)
- ☐ SURV 102 - Surveying Calculations I (3)
- ☐ SURV 200 - Advanced Surveying Field Work (4)
- ☐ SURV 203 - Legal Aspects of Surveying (3)
- ☐ SURV 204 - Real Property Descriptions (2)
- ☐ SURV 205 - Advanced Surveying Computations/Calculations (4)
- ☐ SURV 206 - Property Law: Boundary (3)
- ☐ SURV 207 - Surveying Ethics: An Overview of Ethical Expectations (2)

GENERAL ELECTIVES (All college level courses appearing on your final transcript, not listed above that will bring your total semester hours to 60 hours. 1 semester hour.)
- ☐ _____

SUGGESTED COURSE SEQUENCING

Freshman Year, Fall Semester: 15 credits

- ENGL 111 - English Composition (3)
- CADT 107 - Advanced CAD (3)
- GEOG 131 - Introduction to Cartography (3)
- MATH 130 - Trigonometry (3)
- SURV 100 - Introduction to Surveying/Field Work (4)

Freshman Year, Spring Semester: 15 credits

- SURV 102 - Surveying Calculations I (3)
- ENGL 112 - English Composition (3)
- SURV 203 - Legal Aspects of Surveying (3)
- STAT 200 - Probability and Statistics (3)
- CADT 130 - CAD: Civil (3)

Sophomore Year, Fall Semester: 15 credits

- SUVR 200 - Advanced Surveying Field Work (4)
- SURV 204 - Real Property Descriptions (2)
- KINA Activity (1)
- MATH 141 - Analytical Geometry (3)
- PHYS 111 - General Physics (4) and PHYS 111L - General Physics Laboratory (1)

Sophomore Year, Spring Semester: 15 credits

- SURV 205 - Advanced Surveying Computations/Calculations (4)
- SURV 206 - Property Law: Boundary (3)
- SURV 207 - Surveying Ethics: An Overview of Ethical Expectations (2)
- GIST 332 - Introduction to GIS (2) and GIST 332L - Introduction to GIS Laboratory (1)
- KINE 100 - Health and Wellness (1)
- Essential Learning - Social and Behavioral Sciences, Natural Sciences, Fine Arts or Humanities course (1)