2015-2016 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Geosciences
Concentration: Secondary Teaching

About This Major . . .

The Geosciences secondary licensure degree is structured for graduates to pursue teaching careers at the middle or high school level. The basic curriculum includes all of the major topics within a traditional geology program while also incorporating teacher education courses required for licensure by the state of Colorado. The degree plan includes basic chemistry, physics, and biology. Instruction takes placed in a state of the art science complex on campus which houses several instructional laboratories, projects rooms, a computer applications lab, petrology-mineralogy lab, and rock storage facilities. Most classes include a strong field component, allowing students to take advantage of the diverse geological setting of the Grand Junction area. Students have access to department equipment that includes research petrographic microscopes, binocular microscopes, a computer-assisted x-ray diffractometer, scanning electron microscopes, GPS units, short- and long-period seismometers, and a magnetometer.

The secondary licensure program provides teacher education candidates with broad content knowledge in science and prepares them as teachers for grades 7 through 12. A minimum of 75 credit hours of Essential Learning and content area coursework must be completed with a minimum GPA of 2.80 before a candidate may apply for admission to the Center for Teacher Education secondary licensure program. Please see the Teacher Education Admission Packet for further information on admissions criteria. EDUC 115, *What It Means to be a Teacher*, and EDUC 215, *Teaching as a Profession*, must be taken before applying to the program.

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

All CMU baccalaureate 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. Articulate the fundamental knowledge base and ideas of the major fields of geoscience. (Specialized Knowledge)
2, Collect and interpret geoscience field data. (Applied Learning/Critical Thinking)
3. Collect and interpret geoscience laboratory data. (Applied Learning/Critical Thinking)
4. Use technology (e.g. computer software) for evaluating quantitative geoscience data. (Quantitative Fluency)
5. Write an effective report on a geoscience study. (Communication Fluency)
6. Give an effective oral presentation on a geoscience study. (Communication Fluency)
7. Instruct K-12 students based on self-written learning plans to address individual learning and developmental patterns in the Social Sciences. (Specialized Knowledge)
8. Design a safe and supportive learning environment for elementary and secondary education students. (Applied Learning)
9. Apply content knowledge while working with learners to access information in real world settings assuring learner mastery of the content. (Specialized Knowledge)
10. Integrate assessment, planning, and instructional strategies in coordinated and engaging ways through multiple means of communication. Critical Thinking/Communication Fluency)
11. Engage in meaningful and intensive professional learning and self-renewal by regularly examining practice through ongoing study, self reflection, and collaboration. (Applied Learning)

NAME: _____ **STUDENT ID #** _____

LOCAL ADDRESS AND PHONE NUMBER: _____

_____ **( )** _____

I, (Signature)_____, hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

_____ _____ 20____
Signature of Advisor Date

_____ _____ 20____
Signature of Content Advisor Date

_____ _____ 20____
Signature of Department Head Date

_____ _____ 20____
Signature of Registrar Date

DEGREE REQUIREMENTS:

- 126 semester hours total (Students must complete a minimum of 30 of the last 60 hours of credit at CMU, with at least 15 semester hours in major discipline courses numbered 300 or higher).
- 40 upper division credits (A minimum of 15 taken at the 300-400 course levels within the major at CMU).
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- A cumulative grade point average of 2.8 or higher must be maintained for content courses and overall GPA.
- A "C" or higher is required in all major and foundation courses.
- **All EDUC prefix courses must be completed with a grade of B or better.**
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student's responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student's faculty advisor and Department Head.
- When filling out the program sheet a course can be used only once.
- Essential Learning Capstone should be completed between 45 and 75 hours.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.
- Students must PASS the PLACE or PRAXIS II exam in the content area prior to beginning the internship. Also, ALL other coursework toward the degree must be successfully completed prior to the internship.

ESSENTIAL LEARNING REQUIREMENTS (31 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.

Course No	Title	Sem.hrs	Grade	Term/Trns
English (6 semester hours, must receive a grade of "B" or better and must be completed by the time the student has 60 semester hours.)				
ENGL 111	English Composition	3		
ENGL 112	English Composition	3		
Math (3 semester hours, must receive a grade of "C" or better, must be completed by the time the student has 60 semester hours.)				
MATH 113	College Algebra	4*		
*3 credits apply to the Essential Learning requirements and 1 credit applies to Foundation Courses				
Humanities (3 semester hours)				
Social and Behavioral Sciences (6 semester hours)				
PSYC 233	Human Growth & Development	3		
(PSYC 233 required with a grade of "B" or better)				
GEOG 103 recommended				
History (3 semester hours)				
HIST				
Fine Arts (3 semester hours)				
Natural Sciences (7 semester hours, one course must include a lab)				
BIOL 105	Attributes of Living Systems	3		
BIOL 105L	Attributes of Living Systems	1		
WELLNESS REQUIREMENT (2 semester hours)				
KINE 100	Health and Wellness	1		
KINA 1		1		
ESSENTIAL LEARNING CAPSTONE (4 semester hours)				
ESSL 290	Maverick Milestone (see English & math pre-reqs)	3		
ESSL 200	Essential Speech (co-requisite)	1		
FOUNDATION COURSES (17 semester hours)				
CHEM 131	General Chemistry	4		
CHEM 131L	General Chemistry Lab	1		
PHYS 101	Elementary Astronomy	3		
PHYS 111	General Physics	4		
PHYS 111L	General Physics Lab	1		
*MATH 113	College Algebra	1		
MATH 130	Trigonometry	3		

GEOLOGY – LEADING TO SECONDARY TEACHING LICENSURE MAJOR REQUIREMENTS (40 semester hours)
A "C" or higher is required in all major courses.

Required Core Courses (40 semester hours)				
*Choose either GEOL 103 or GEOL 104				
*GEOL		3		
GEOL 111	Principles of Physical Geology	3		
GEOL 111L	Principles of Physical Geology Lab	1		
GEOL 112	Principles of Historical Geology	3		
GEOL 112L	Principles of Historical Geology Lab	1		
GEOL 202	Introduction to Field Studies	3		
GEOL 204	Computer Applications in Geology	3		
GEOL 250	Environmental Geology	3		
GEOL 301	Structural Geology	3		
GEOL 301L	Structural Geology Lab	1		
GEOL 331	Crystallography & Mineralogy	3		
GEOL 331L	Crystallography & Mineralogy Lab	1		
GEOL 340	Igneous and Metamorphic Petrology	3		
GEOL 340L	Igneous and Metamorphic Petrology Lab	1		
GEOL 402	Applications of Geomorphology	3		
GEOL 402L	Applications of Geomorphology Lab	1		
GEOL 444	Sedimentology and Stratigraphy	3		
GEOL 444L	Sedimentology and Stratigraphy Lab	1		
Electives (3 semester hours)				

Secondary Education Requirements (29 Semester Hours)

Course No	Title	Sem.hrs	Grade	Term/Trns	
EDUC 115	What It Means to be a Teacher	1	_____	_____	8 Field Experience Hours
EDUC 215	Teaching as a Profession	1	_____	_____	12 Field Experience Hours
EDUC 342	Pedagogy & Assessment: Secondary/K-12	3	_____	_____	20 Field Experience Hours
EDUC 343	Teaching to Diversity	3	_____	_____	20 Field Experience Hours
EDUC 442	Integrating Literacy Across the Curriculum	4	_____	_____	60 Field Experience Hours
EDUC 497	Content Methodology Practicum	3	_____	_____	80 Field Experience Hours with EDUC 497D
EDUC 497D*	Methods of Teaching Secondary Science	2	_____	_____	
EDUC 499G	Teaching Internship and Colloquium	12	_____	_____	600 Field Experience Hours

*This course is only offered in the fall semester. It may be taken with either the 300-level or 400-level EDUC courses but must be taken before the student teaching semester.

Prerequisites for EDUC 342 and subsequent courses: ENGL 111, ENGL 112, ESSL 200, ESSL 290, PSYC 233, EDUC 115, and EDUC 215 (all with a grade of B or better) and formal acceptance to the Teacher Education Program. **All EDUC prefix courses listed above must be completed with a grade of B or better to progress through the program sequence.**

All EDUC prefix courses listed above must be completed with a grade of B or better to progress through the program sequence.

Students must PASS the PLACE or PRAXIS II exam in the content area prior to commencing the internship. Also, ALL other coursework toward the degree must be successfully completed prior to the internship.

POLICIES:

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the **semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates.** You must turn in your "Intent to Graduate" form to the Registrar's Office **by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December**.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your "Intent to Graduate" does not automatically move to a later graduation date.
5. NOTE: During your senior year, you will be required to take a capstone exit assessment/project (e.g,, Major Field Achievement Test).

SUGGESTED COURSE SEQUENCING FOR A MAJOR IN GEOLOGY – LEADING TO SECONDARY TEACHER LICENSURE

This is a recommended sequence of course work. Certain courses may have prerequisites and/or are only offered during the Fall or Spring semesters. It is the student's responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

FRESHMAN YEAR

Fall Semester		Hours
GEOL 103	Weather and Climate **or**	
GEOL 104	Oceanography	3
GEOL 111	Principles of Physical Geology	3
GEOL 111L	Principles of Physical Geology Lab	1
ENGL 111	English Composition	3
MATH 113	College Algebra	4
KINE 100	Health and Wellness	1
		15

Spring Semester		Hours
GEOL 112	Principles of Historical Geology	3
GEOL 112L	Principles of Historical Geology Lab	1
ENGL 112	English Composition	3
MATH 130	Trigonometry	3
PSYC 233	Human Growth and Development	3
Essential Learning Natural Sciences		3
		16

SOPHOMORE YEAR

Fall Semester		Hours
GEOL 202	Introduction to Field Studies	3
GEOL 250	Environmental Geology	3
CHEM 131	General Chemistry	4
CHEM 131L	General Chemistry Lab	1
PHYS 111	General Physics	4
PHYS 111L	General Physics Lab	1
EDUC 115*	What It Means to be a Teacher	1
		17

Spring Semester		Hours
GEOL 204	Computer Applications in Geology	3
BIOL 105	Attributes of Living Systems	3
BIOL 105L	Attributes of Living Systems	1
PHYS 101	Elementary Astronomy	3
ESSL	Fine Arts	3
ESSL	Social/Behavioral Science	
(GEOG 103 World Regional Geography Recommended)		3
KINA	Activity	1
		17

JUNIOR YEAR

Fall Semester		Hours
GEOL 301	Structural Geology	3
GEOL 301L	Structural Geology Lab	1
GEOL 331	Crystallography and Mineralogy	3
GEOL 331L	Crystallography and Mineralogy lab	1
ESSL	History	3
ESSL 290	Maverick Milestone	3
ESSL 200	Essential Speech	1
EDUC 215*	Teaching as a Profession	1
		16

Spring Semester		Hours
GEOL 340	Igneous & Metamorphic Petrology	3
GEOL 340L	Igneous & Metamorphic Petrology	1
GEOL 444	Sedimentology and Stratigraphy	3
GEOL 444L	Sedimentology and Stratigraphy Lab	1
EDUC 342	Pedagogy/Assessment: Secondary/K-12	3
EDUC 343	Teaching to Diversity	3
Elective		3
		17

*Must be taken prior to acceptance into the Center for Teacher Education. Offered in Fall, Spring, and Summer terms.

SENIOR YEAR

Fall Semester		Hours
GEOL 402	Applications of Geomorphology	3
GEOL 402L	Applications of Geomorphology Lab	1
ESSL	Humanities	3
EDUC 442	Integrating Literacy: Secondary/K-12 Art	4
EDUC 497	Content Methods Practicum	3
EDUC 497D**	Methods of Teaching Secondary Science	2
		16

Spring Semester		Hours
EDUC 499G	Teach. Intern/Colloquium: Secondary	12
		12

**Only offered in Fall.