



2009-2010 PETITION/PROGRAM SHEET

Degree: Bachelor of Science

Major: Physical Sciences - Geology

Concentration: Geology

Option: Secondary Teaching

www.mesastate.edu/academics/programs.html

About This Major . . .

The Earth Science 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 place 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 general education 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 211, *Foundations of Education*, must be taken before applying to the program.

POLICIES:

1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the MSC Catalog for a complete list of graduation requirements.
2. 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. 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.**
4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the Department Head or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
6. 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.
7. NOTE: The semester before graduation, you will be required to take an exit exam.

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 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.

Signature of Advisor

Date

Signature of Content Advisor

Date

Signature of Department Head

Date

Signature of Registrar

Date

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:

- Must earn 126 semester hours total and meet the academic residency requirements to earn a baccalaureate degree at Mesa State College.
- 40 upper division credits (i.e., 300-level and 400-level courses).
- 2.80 cumulative GPA or higher in all MSC coursework
- 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 each of 3 areas: content courses, education courses and overall GPA.
- A "C" or higher is required in all major courses.
- A student must follow the MSC 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.
- See the "Undergraduate Graduation Requirements" in the Mesa State College 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.

GENERAL EDUCATION REQUIREMENTS (31 semester hours)

See the current Mesa State College catalog for a list of courses that fulfill the requirements below. If a course is on the general education list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the general education requirement.

Course	No	Title	Sem.hrs	Grade	Term	Trns
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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*				
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*3 credits apply to the General Ed requirements and 1 credit applies to Required Supporting Course credit

Humanities (3 semester hours)

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Social and Behavioral Sciences (6 semester hours)

PSYC 233	Human Growth & Development	3				
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(PSYC 233 required with a grade of "B" or better)

GEOG 103 recommended

History (3 semester hours)

HIST _____	_____	_____	_____	_____	_____	_____
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Fine Arts (3 semester hours)

_____	_____	_____	_____	_____	_____	_____
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Course	No	Title	Sem.hrs	Grade	Term	Trns
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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				

OTHER LOWER DIVISION REQUIREMENTS (6 semester hours)

Kinesiology (3 semester hours)

KINE 100	Health and Wellness	1				
KINA 1 _____	_____	1				
KINA 1 _____	_____	1				

Applied Studies (3 semester hours)

SPCH 102	Speechmaking	3				
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(SPCH 102 Required with a grade of "B" or better)

BACHELOR OF SCIENCE DEGREE DISTINCTION

REQUIREMENTS (6 semester hours) Must receive a grade of "C" or better.

MATH 130	Trigonometry	3				
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Humanities or Social/Behavioral Sciences: (3 semester hours)

_____	_____	_____	_____	_____	_____	_____
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GEOLOGY – LEADING TO SECONDARY TEACHING

LICENSURE MAJOR REQUIREMENTS (54 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				

Required Supporting Courses (14 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	_____	_____

Secondary Education Requirements (29 Semester Hours)

***Prerequisites:** ENGL 111, ENGL 112, SPCH 102, PSYC 233, EDUC 211 (all with a grade of B or better), MATH 113 or higher (with grade of C or higher, Declared major in Biology – Leading to Secondary Teacher Licensure and formal acceptance to the Teacher Education Program

Course No Title Sem.hrs Grade Term/Trms

EDUC 211 Foundations of Education 2 _____ 20 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 5 _____ 60 Field Experience Hours

EDUC 497* Content Methodology
Practicum 3 _____ 80 Field Experience Hours with EDUC 497D

EDUC 497D* Methods of Teaching Secondary
Science 1 _____

EDUC 499G* Teaching Internship and
Colloquium 12 _____ 600 Field Experience Hours

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.

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

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 Mesa State website for course availability.

FRESHMAN YEAR

Fall Semester		Hours	Spring Semester		Hours
GEOL 103	Weather and Climate or		GEOL 112	Principles of Historical Geology	3
GEOL 104	Oceanography	3	GEOL 112L	Principles of Historical Geology Lab	1
GEOL 111	Principles of Physical Geology	3	ENGL 112	English Composition	3
GEOL 111L	Principles of Physical Geology Lab	1	MATH 130	Trigonometry	3
ENGL 111	English Composition	3	PSYC 233	Human Growth and Development	3
MATH 113	College Algebra	4	SPCH 102	Speechmaking	3
KINE 100	Health and Wellness	<u>1</u>	KINA	Activity	<u>1</u>
		15			17

SOPHOMORE YEAR

Fall Semester		Hours	Spring Semester		Hours
GEOL 202	Introduction to Field Studies	3	GEOL 204	Computer Applications in Geology	3
GEOL 250	Environmental Geology	3	BIOL 105	Attributes of Living Systems	3
CHEM 131	General Chemistry	4	BIOL 105L	Attributes of Living Systems	1
CHEM 131L	General Chemistry Lab	1	PHYS 101	Elementary Astronomy	3
PHYS 111	General Physics	4	General Education Fine Arts		3
PHYS 111L	General Physics Lab	<u>1</u>	General Education Social/Behavioral Science		
		16	(GEOG 103 World Regional Geography Recommended)		3
			KINA	Activity	<u>1</u>
					17

JUNIOR YEAR

Fall Semester		Hours	Spring Semester		Hours
GEOL 301	Structural Geology	3	GEOL 340	Igneous & Metamorphic Petrology	3
GEOL 301L	Structural Geology Lab	1	GEOL 340L	Igneous & Metamorphic Petrology	1
GEOL 331	Crystallography and Mineralogy	3	GEOL 444	Sedimentology and Stratigraphy	3
GEOL 331L	Crystallography and Mineralogy lab	1	GEOL 444L	Sedimentology and Stratigraphy Lab	1
General Education Natural Sciences		3	EDUC 342	Pedagogy/Assessment: Secondary/K-12	3
General Education History		3	EDUC 343	Teaching to Diversity	3
*EDUC 211	Foundations in Education	<u>2</u>	Degree Distinction Social/Behavioral Science or Humanities		<u>3</u>
		16			17

**Must be taken prior to acceptance into the Center for Teacher Education. Offered in summer, fall and spring semesters.

*May be taken prior to acceptance into the Center for

SENIOR YEAR

Fall Semester		Hours	Spring Semester		Hours
GEOL 402	Applications of Geomorphology	3	EDUC 499G	Teach. Intern/Colloquium: Secondary	<u>12</u>
GEOL 402L	Applications of Geomorphology Lab	1			12
General Education Humanities		3			
EDUC 442	Integrating Literacy: Secondary/K-12 Art	5			
EDUC 497	Content Methods Practicum	3			
EDUC 497D	Methods of Teaching Secondary Science	<u>1</u>			
		16			