2008 – 09 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Physical Sciences - Geology
Concentration: Geology
Option: Secondary Teaching
www.mesastate.edu/schools/snsm/geology/index

About This Major . . .

The Earth Science Licensure Degree is structured so that graduates can pursue teaching careers at the secondary level. The basic curriculum includes all of the major topics within a traditional geology program, but also incorporates teacher-education courses required by the State of Colorado. The curriculum also includes a variety of courses in basic chemistry, physics, and biology allowing graduates to teach science courses. Instruction takes place in a state-of-the-art science complex, which houses several instructional laboratories, projects room, computer-applications laboratory, class preparation room, petrology-mineralogy laboratory, rock-storage facilities and a sample preparation room. Most classes have a strong field component so that students can enjoy the diverse geological setting of the Grand Junction area. Available equipment includes research petrographic microscopes, binocular microscopes, computer-assisted x-ray diffractometer, several scanning-electron microscopes, GPS units, short-period and long-period seismometers and a magnetometer. Computer facilities include modern PC systems with software basics for communications, database management, word-processing and software for geographical information systems (GIS) and geostatistics.

The secondary licensure program provides teacher education candidates a broad field content knowledge in the sciences and prepares them as teachers for grades 7-12. 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. You must be formally accepted into the Teacher Education Program before taking education courses. Please see the Teacher Education Admission Packet for further information on admissions criteria.

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.

_____ _____ 20_____
Signature of Advisor Date

_____ _____ 20_____
Signature of Content Advisor Date

_____ _____ 20_____
Signature of Department Head Date

_____ _____ 20_____
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 g.p.a.
- A "C" or higher is required in all major courses.
- Program sheets are for advising purposes only. Because a program may have requirements specific to the degree, check with your advisor for additional guidelines, including prerequisites, grade point averages, grades, exit examinations, and other expectations. It is the student's responsibility to be aware of, and follow, all guidelines for the degree being pursued. Any exceptions or substitutions must be approved by the faculty advisor and/or Department Head. Courses related to teacher licensure must also be approved by the Teacher Education Dept.
- 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 commencing 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

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	_____	_____

(ENGL 129, Honors English, may be substituted for ENGL 111 & ENGL 112.)

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 General Ed requirements and 1 credit applies to Required Supporting Course credit

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 ____ _____ ____ _____ _____

Course No	Title	Sem.hrs	Grade	Term/Trns

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	_____	_____
_____	____ _____	____	_____	_____

Fine Arts (3 semester hours)

_____	____	_____	____	_____	_____

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	_____	_____

(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	_____	_____

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

_____	____	_____	____	_____	_____

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/Trns	
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.

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
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
SPCH 102	Speechmaking	3
KINA	Activity	1
		17

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
		16

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
General Education Fine Arts		3
General Education 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
General Education Natural Sciences		3
General Education History		3
*EDUC 211	Foundations in Education	2
		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
Degree Distinction Social/Behavioral Science or Humanities		3
		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
GEOL 402	Applications of Geomorphology	3
GEOL 402L	Applications of Geomorphology Lab	1
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	1
		16

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