



2006 – 07 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Physical Sciences - Geology
Concentration: Secondary Teaching
www.mesastate.edu/schools/snsn/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 mandated 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.

Signature of Advisor _____ 20____
Date

Signature of Content Advisor _____ 20____
Date

Signature of Department Head _____ 20____
Date

Signature of Registrar _____ 20____
Date

- Must earn 125 semester hours and meet the academic residency requirements to earn a baccalaureate degree at Mesa State College.
- Must earn a minimum of 40 semester hours in upper division courses (i.e., 300-level and 400-level courses).
- A cumulative grade point average of 2.8 or higher must be maintained for all courses.
- A “C” or higher is required in all major courses.
- When filling out this program sheet a course can only be used once, i.e., no double counting is allowed between categories.
- Excess KINA/HPWE courses beyond the two required and pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- All degree requirements must be completed as described. Any exceptions or substitutions must be recommended in advance by the faculty advisor and approved by the Department Head. Courses related to teacher licensure must also be approved by the Teacher Education Dept.
- It is recommended that students work closely with a faculty advisor when selecting courses and scheduling classes prior to registration.
- Students are required to participate in exit examinations or other programs deemed necessary to comply with the college accountability requirement.
- 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 (Minimum of 33 semester hours) See the M.S.C. catalog for the list of courses that meet the general education categories.

Course	No.	Credit	Grade	Term	Year	Trns/Subs
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English: ENGL 111 and 112 (6 semester hours, must receive a “B” or better, must be completed by the time the student has 60 semester hours)

*ENGL _____

*ENGL _____

*ENGL 129, Honors English, may be substituted for ENGL 111 and ENGL 112. Must earn a grade of “B” or better. May need to take additional electives.

Humanities: (6 semester hours)

Social and Behavioral Sciences: (6 semester hours)

PSYC 233 _____

(PSYC 233 required with a grade of “B” or better)

(GEOG 103 Recommended)

Course	No.	Credit	Grade	Term	Year	Trns/Subs
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Humanities or Social/Behavioral Science: (3 semester hours)

Fine Arts: (3 semester hours)

Natural Sciences: (minimum 6 semester hours, at least one course must include a lab)

BIOL 105 _____

BIOL 105L _____

Applied Studies: (3 semester hours)

SPCH 102 _____

(SPCH 102 Required with a grade of “B” or better)

Other Requirements (10 semester hours)

Kinesiology: (3 Semester Hours)

Course	No.	Credit	Grade	Term	Year	Trns/Subs
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KINE/HPWA 100 1 _____

KINA/HPWE _____ 1 _____

KINA/HPWE _____ 1 _____

See the M.S.C. catalog for the list of approved KINA/HPWE/Selected DANC courses.

Bachelor of Science Degree Distinction:

(7 semester hours) Must earn a “C” or better in both courses.

Course	No.	Credit	Grade	Term	Year	Trns/Subs
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MATH 113 4 _____

MATH 130 3 _____

Geology – Leading to Secondary Teacher Licensure Major Requirements (53 Semester Hours)

A “C” or higher is required in all major courses.

Course	No.	Credit	Grade	Term	Year	Trns/Subs
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Required Core Courses (40 semester hours)

*Choose either GEOL 103 or GEOL 104

*GEOL _____ 3 _____

GEOL 111 3 _____

GEOL 111L 1 _____

GEOL 112 3 _____

GEOL 112L 1 _____

GEOL 202 3 _____

GEOL 204 3 _____

GEOL 250 3 _____

Course	No.	Credit	Grade	Term	Year	Trns/Subs
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GEOL 301 3 _____

GEOL 301L 1 _____

GEOL 331 3 _____

GEOL 331L 1 _____

GEOL 340 3 _____

GEOL 340L 1 _____

GEOL 402 3 _____

GEOL 402L 1 _____

GEOL 444 3 _____

GEOL 444L 1 _____

Continued on page 3

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
Required Supporting Courses (13 semester hours)													
CHEM	<u>131</u>	<u>4</u>	_____	_____	_____	_____	PHYS	<u>111</u>	<u>4</u>	_____	_____	_____	_____
CHEM	<u>131L</u>	<u>1</u>	_____	_____	_____	_____	PHYS	<u>111L</u>	<u>1</u>	_____	_____	_____	_____
PHYS	<u>101</u>	<u>3</u>	_____	_____	_____	_____							

Secondary Education Requirements (29 Semester Hours)

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
*Prerequisites: ENGL 111, ENGL 112, SPCH 102, PSYC 233 (all with a grade of B or better), Declared major in Geology/Earth Science– Leading to Secondary Teacher Licensure and formal acceptance to the Teacher Education Program													
EDUC	<u>211*</u>	<u>2</u>	_____	_____	_____	_____	EDUC	<u>497</u>	<u>3</u>	_____	_____	_____	_____
EDUC	<u>342</u>	<u>3</u>	_____	_____	_____	_____	EDUC	<u>497D</u>	<u>1</u>	_____	_____	_____	_____
EDUC	<u>343</u>	<u>3</u>	_____	_____	_____	_____	EDUC	<u>499G</u>	<u>12</u>	_____	_____	_____	_____
EDUC	<u>442</u>	<u>5</u>	_____	_____	_____	_____							

* 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.

GRADUATION INFORMATION

See the “Undergraduate Graduation Requirements” in the Mesa State College catalog for additional graduation information.
A 2.8 Minimum Cumulative Grade Point Average is required.

GENERAL EDUCATION REQUIREMENTS (Minimum of 33 Semester Hours) See current Mesa State College catalog for list of courses that fulfill the requirements below. If one (or more) of the selections below is required in your major, you must use it to fulfill the major requirement and **make a different selection to meet the general education requirement. The courses may not be used to fulfill both requirements.**

English – 6 Semester Hours (Must be **completed** before student has 60 semester hours. Must receive grade of “B” or above.)
 ENGL 111 **and** ENGL 112 **or** ENGL 129 (*by permission*)

Humanities – 6 semester hours

Social and Behavioral Sciences – 6 semester hours (PSYC 233 required with a “B” or better, GEOG 103 recommended)

Humanities or Social/Behavioral Sciences – 3 semester hours

Fine Arts – 3 semester hours

Natural Sciences – 6 semester hours (At least one course must include a lab.) (BIOL 105, 105L required.)

Applied Studies – 3 semester hours (SPCH 102 required with a “B” or better.)

OTHER REQUIREMENTS (10 Semester Hours)

Kinesiology – 3 Semester Hours

Each student must take KINE/HPWA 100 together with two KINA/HPWE/Selected DANC courses. See current catalog for listing.

Degree Distinction – 7 Semester Hours

MATH 113 College Algebra – 4 semester hours

MATH 130 Trigonometry – 3 semester hours

Geology – Leading to Secondary Teacher Licensure (53 Semester Hours)

A “C” or higher is required in all major courses.

Required Core Courses (40 semester hours):

GEOL 103 Weather and Climate or GEOL 104 Oceanography
GEOL 111 Principles of Physical Geology
GEOL 111L Principles of Physical Geology Lab
GEOL 112 Principles of Historical Geology
GEOL 112L Principles of Historical Geology Lab
GEOL 202 Introduction to Field Studies
GEOL 204 Computer Applications in Geology
GEOL 250 Environmental Geology
GEOL 301 Structural Geology
GEOL 301L Structural Geology Lab
GEOL 331 Crystallography and Mineralogy
GEOL 331L Crystallography and Mineralogy Lab
GEOL 340 Igneous and Metamorphic Petrology
GEOL 340L Igneous and Metamorphic Petrology Lab
GEOL 402 Applications of Geomorphology
GEOL 402L Applications of Geomorphology Lab
GEOL 444 Sedimentology and Stratigraphy
GEOL 444L Sedimentology and Stratigraphy Lab

Required Supporting Courses (13 semester hours):

CHEM 131 General Chemistry
CHEM 131L General Chemistry Lab
PHYS 101 Elementary Astronomy
PHYS 111 General Physics
PHYS 111L General Physics Lab

Secondary Education Requirements (29 semester hours)

*Prerequisites: ENGL 111, ENGL 112, SPCH 102, PSYC 233 (all with grade of B or better) and declared major in Geology/Earth Science – Leading to Secondary Teacher Licensure and formal acceptance into the Teacher Education Program

*EDUC 211 Foundations of Education	2 semester hours	20 Field Experience Hours
EDUC 342 Pedagogy & Assessment: Secondary/K-12	3 semester hours	20 Field Experience Hours
EDUC 343 Teaching to Diversity	3 semester hours	20 Field Experience Hours
EDUC 442 Integrating Literacy Across the Curriculum	5 semester hours	60 Field Experience Hours
EDUC 497 Content Methodology Practicum	3 semester hours	80 Field Experience Hours with EDUC 497D
EDUC 497D Methods of Teaching Secondary Science	1 semester hour	
EDUC 499G Teaching Internship and Colloquium	12 semester hours	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 internship.

Students are required to participate in exit examinations or other programs deemed necessary to comply with the college accountability requirements. All degree requirements must be completed as described above. Any exceptions or substitutions must be recommended in advance by the faculty advisor, approved by the Department Head and the Teacher Education Department.

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 their 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 <u>or</u>	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/HPWA 100	Health and Wellness <u>1</u>	KINA/HPWE	Activity <u>1</u>
	15		17

*Indicates that courses must be taken to satisfy State Board of Education Requirements.

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 4
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 1	KINA/HPWE	Activity <u>1</u>
General Education Social/Behavioral Science (GEOG 103 World Regional Geography Recommended)	<u>3</u>		15
	19		

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 211	Foundations in Education 2
General Education Humanities	3	EDUC 342	Pedagogy/Assessment: Secondary/K-12 3
General Education Social/Behavioral Science or Humanities	<u>3</u>	EDUC 343	Teaching to Diversity <u>3</u>
	17		16

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		