



2005 – 06 PETITION/PROGRAM SHEET

Degree: Bachelor of Science

Major: Geology – Earth Science (Leading to Secondary Teacher Licensure)

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 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, thus, allowing graduates to teach other introductory science courses. Instruction takes place in a state-of-the-art, science complex, which houses several instructional laboratories, a 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. The program is supported by five tenure-track faculty members, plus four instructors. Equipment available includes research petrographic microscopes, binocular microscopes, a computer-assisted x-ray diffractometer, several scanning-electron microscopes (available through the Biology Department), 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 also include software for geographical information systems (GIS) and geostatistics.

The secondary licensure track program is designed to provide teacher education candidates broad-field content knowledge and train them as future teachers for a grades 7-12 State of Colorado endorsement (teacher license) in this content area. 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.

POLICIES:

1. It is your responsibility to determine whether you have met the requirements for your degree. Please see your MSC Catalog for a complete list of graduation requirements.
2. You must go to the Registrar's Office and fill out the "Intent to Graduate" form **at the beginning of the semester prior to graduating.**
3. This program sheet must be submitted with your graduation planning sheet to your advisor during the **semester prior to graduating, no later than September 15 for Spring graduates, February 15 for Fall graduates.**
4. Your advisor will sign and forward the Program Sheet, Intent to Graduate Form, 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 a Major Field Achievement Test (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 Department Head

Date

Signature of Registrar

Date

- Must earn 123 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 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

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

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)

Human Performance and Wellness: (3 Semester Hours)

Course No. Credit Grade Term Year Trns/Subs

HPWA 100 1 _____

HPWE _____ 1 _____

HPWE _____ 1 _____

See the M.S.C. catalog for the list of approved HPWE Activity 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

MATH 113 4 _____

MATH 130 3 _____

Geology/Earth Science – Leading to Secondary Teacher Licensure Major Requirements (50 Semester Hours)

A "C" or higher is required in all major courses.

Course No. Credit Grade Term Year Trns/Subs

Required Core Courses (37 semester hours)

*Choose either GEOL 103 or GEOL 104

*GEOL _____ 3 _____

GEOL 111 3 _____

GEOL 111L 1 _____

GEOL 112 3 _____

GEOL 112L 1 _____

GEOL 250 3 _____

GEOL 301 3 _____

GEOL 301L 1 _____

Course No. Credit Grade Term Year Trns/Subs

GEOL 331 3 _____

GEOL 331L 1 _____

GEOL 340 3 _____

GEOL 340L 1 _____

GEOL 390 3 _____

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
<u>Required Supporting Courses (13 semester hours)</u>													
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													
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)

Human Performance and Wellness – 3 Semester Hours

Each student must take HPWA 100 together with two HPWE Activity 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/Earth Science – Leading to Secondary Teacher Licensure (50 Semester Hours)

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

Required Core Courses (22 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 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 390 Computer Applications in Geology
GEOL 402 Applications of Geomorphology
GEOL 402L Applications of Geomorphology Lab
GEOL 444 Stratigraphy and Sedimentation
GEOL 444L Stratigraphy and Sedimentation 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

*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 requirement. 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. Courses related to teacher licensure must also be approved by the Teacher Education Department.

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

FRESHMAN YEAR

Fall Semester	Hours	Spring Semester	Hours
GEOL 103	Weather and Climate <u>or</u>	GEOL 112	Principles of Historical Geology
GEOL 104	Oceanography	GEOL 112L	Principles of Historical Geology Lab
GEOL 111	Principles of Physical Geology	ENGL 112	English Composition
GEOL 111L	Principles of Physical Geology Lab	MATH 130	Trigonometry
ENGL 111	English Composition	PSYC 233*	Human Growth and Development
MATH 113	College Algebra	SPCH 102*	Speechmaking
HPWA 100	Health and Wellness	HPWE Activity	
	<u>1</u>		<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
CHEM 131	General Chemistry	GEOL 250	Environmental Geology
CHEM 131L	General Chemistry Lab	BIOL 105	Attributes of Living Systems
PHYS 111	General Physics	BIOL 105L	Attributes of Living Systems
PHYS 111L	General Physics Lab	PHYS 101	Elementary Astronomy
GEOG 103	World Regional Geography	General Education Fine Arts	
	<u>3</u>	HPWE Activity	
	13		<u>1</u>
			15

JUNIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
GEOL 301	Structural Geology	GEOL 340	Igneous & Metamorphic Petrology
GEOL 301L	Structural Geology Lab	GEOL 340L	Igneous & Metamorphic Petrology
GEOL 331	Crystallography and Mineralogy	GEOL 390	Computer Applications in Geology
GEOL 331	Crystallography and Mineralogy lab	GEOL 444	Stratigraphy and Sedimentation
General Education Natural Sciences	3	GEOL 444L	Stratigraphy and Sedimentation
General Education Humanities	3	EDUC 211	Foundations in Education
General Education Social/Behavioral Science or Humanities	<u>3</u>	EDUC 342	Pedagogy/Assessment: Secondary/K-12
	17	EDUC 343	Teaching to Diversity
			<u>3</u>
			19

SENIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
GEOL 402	Applications of Geomorphology	EDUC 499G	Teach. Intern/Colloquium: Secondary
GEOL 402L	Applications of Geomorphology Lab		<u>12</u>
General Education Humanities	3		12
EDUC 442	Integrating Literacy: Secondary/K-12 Art		
EDUC 497	Content Methods Practicum		
EDUC 497D	Methods of Teaching Secondary Science		
	<u>1</u>		
	15		