



2006 – 07 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Physical Sciences
Concentration: Environmental Geology
www.mesastate.edu/schools/snsm/geology/

About This Major . . .

The Bachelor of Science Degree with a concentration in Environmental Geology, is designed for students who (1) desire a strong liberal arts education with emphasis on environmental issues within the earth sciences, (2) wish to pursue a graduate degree in environmental geology, or (3) desire a professional or technical career. The Environmental Geology B.S. degree has the same basic framework as the B.S. degree in with a concentration in Geology. The specific focus of the Environmental Geology Program is different from the Geology Program, in that a stronger emphasis is placed on geologic hazards, ground-water and surface-water hydrology, low-temperature geochemistry, biological systems, and environmental science. Recent graduates are attending graduate programs at major universities or have entered the work force as geological technicians or professional geologists. 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.

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 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 _____ 20____

Signature of Department Head Date _____ 20____

Signature of Registrar Date _____ 20____

- Must earn 120 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 2.0 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.
- 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.

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	Course	No.	Credit	Grade	Term	Year	Trns/Subs
English: ENGL 111 and 112 (6 semester hours, must receive a “C” or higher, must be completed by the time the student has 60 semester hours)							Humanities or Social/Behavioral Science: (3 semester hours)						
*ENGL	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
*ENGL	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
*ENGL 129, Honors English, may be substituted for ENGL 111 and ENGL 112. Must earn a grade of “C” or better. May need to take additional electives.							Fine Arts: (3 semester hours)						
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Humanities: (6 semester hours)							Natural Sciences: (minimum 6 semester hours, at least one course must include a lab)						
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Social and Behavioral Sciences: (6 semester hours)							Applied Studies: (3 semester hours)						
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Other Requirements (11 semester hours)

Kinesiology: (3 Semester Hours)							Bachelor of Science Degree Distinction: (8 semester hours) Must earn a “C” or better in both courses.						
Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
KINE/HPWA	100	1	_____	_____	_____	_____	MATH	151	5	_____	_____	_____	_____
KINA/HPWE	_____	1	_____	_____	_____	_____	STAT	200	3	_____	_____	_____	_____
KINA/HPWE	_____	1	_____	_____	_____	_____	See the M.S.C. catalog for the list of approved KINA/HPWE/Selected DANC courses.						

Physical Sciences – Environmental Geology Major Requirements (63-64 Semester Hours)

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

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
GEOL 111/111L or GEOL 113/113L *													
GEOL*	_____	3	_____	_____	_____	_____	GEOL	355	3	_____	_____	_____	_____
GEOL*	L	1	_____	_____	_____	_____	GEOL	402	3	_____	_____	_____	_____
GEOL	112	3	_____	_____	_____	_____	GEOL	402L	1	_____	_____	_____	_____
GEOL	112L	1	_____	_____	_____	_____	GEOL	415	3	_____	_____	_____	_____
GEOL	202	3	_____	_____	_____	_____	GEOL	415L	1	_____	_____	_____	_____
GEOL	204	3	_____	_____	_____	_____	GEOL	444	3	_____	_____	_____	_____
GEOL	250	3	_____	_____	_____	_____	GEOL	444L	1	_____	_____	_____	_____
GEOL	301	3	_____	_____	_____	_____	GEOL	480	6	_____	_____	_____	_____
GEOL	301L	1	_____	_____	_____	_____	GEOL	490	3	_____	_____	_____	_____
GEOL	331	3	_____	_____	_____	_____							
GEOL	331L	1	_____	_____	_____	_____	* Either GEOL 111/111L or GEOL 113/113L may be taken for credit, but not both.						

Continued on page 3

Required Support Courses

BIOL102/102L or BIOL 211/211L

BIOL	___	___	___	___	___	___
BIOL	___	___	___	___	___	___
CHEM	<u>131</u>	<u>4</u>	___	___	___	___
CHEM	<u>131L</u>	<u>1</u>	___	___	___	___

PHYS 111/111L or PHYS 131/131L

PHYS	___	<u>4</u>	___	___	___	___
PHYS	___	<u>1</u>	___	___	___	___

Restricted Electives (7 semester hours; 8 hours of Restricted and General Electives must be upper division.)

Choose from GEOL 325, GEOL 359, GEOL 361, GEOL 404, GEOL 404L, GEOL 455, GEOL 497, ENVS 312, ENVS 312L, ENVS 313, ENVS 313L, POLS 488, CHEM 132, CHEM 132L, MATH 152, STAT 311, *PHYS 112/112L or *PHYS 132/132L

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___

*Either PHYS 112/112L or PHYS 132/132L may be taken for credit, but not both.

Electives (All college level courses appearing on your final transcript, **not listed above** that will bring your total semester hours to 120 hours. Excludes KINA/HPWE activity courses.) (5-6 semester hours; 8 hours of Restricted and General Electives must be upper division.)

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___	___	___	___	___

GRADUATION INFORMATION

See the "Undergraduate Graduation Requirements" in the Mesa State College catalog for additional graduation information.

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 "C" or above.)ENGL 111 **and** ENGL 112 **or** ENGL 129 (*by permission*)**Humanities – 6 semester hours****Social and Behavioral Sciences – 6 semester hours****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.)**Applied Studies – 3 semester hours****OTHER REQUIREMENTS** (11 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 – 8 Semester Hours

MATH 151 Calculus I (5 semester hours)

Physical Science – Environmental Geology (63-64 Semester Hours)

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

Required Courses:

GEOL 111 Principles of Physical Geology **and**
GEOL 111L Principles of Physical Geology Laboratory **OR**
GEOL 113 Field-Based Introduction to Physical Geology **and**
GEOL 113L Field-Based Introduction to Physical Geology Laboratory
(Either GEOL 111/111L or GEOL 113/113L may be taken for semester, but not both.)
GEOL 112 Principles of Historical Geology
GEOL 112L Principles of Historical Geology Laboratory
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 Laboratory
GEOL 355 Basic Hydrology
GEOL 402 Applications of Geomorphology
GEOL 402L Applications of Geomorphology Laboratory
GEOL 415 Introduction to Ground Water
GEOL 415L Introduction to Ground Water Laboratory
GEOL 444 Stratigraphy and Sedimentation
GEOL 444L Stratigraphy and Sedimentation Laboratory
GEOL 480 Summer Field Camp
GEOL 490 Seminar
BIOL 102 General Organisms Biology **and**
BIOL 102L General Organisms Biology Laboratory **OR**
BIOL 211 Ecosystem Biology **and**
BIOL 211L Ecosystem Biology Laboratory
CHEM 131L General Chemistry **and**
CHEM 131L General Chemistry Laboratory
PHYS 111 General Physics **and**
PHYS 111L General Physics Laboratory **OR**
PHYS 131 Fundamental Mechanics **and**
PHYS 131L Fundamental Mechanics Laboratory

Restricted Electives: 7 Semester Hours

General Electives: 5-6 Semester Hours

8 hours of Restricted and General Electives must be upper division.

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 and approved by the Department Head.

SUGGESTED COURSE SEQUENCING FOR A MAJOR IN PHYSICAL SCIENCE – ENVIRONMENTAL GEOLOGY

This is a recommended sequence of course work. Certain courses may have prerequisites 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 111* Principles of Physical Geology <u>and</u>	3	GEOL 112 Principles of Historical Geology	3
GEOL 111L* Principles of Physical Geology Lab <u>or</u>	1	GEOL 112L Principles of Historical Geology Lab	1
GEOL 113* Fld. Based Intro to Phys Geology <u>and</u>	3	ENGL 112 English Composition	3
GEOL 113L* Fld. Based Intro to Phys Geology Lab	1	General Education Humanities	3
ENGL 111 English Composition	3	General Education Social/Behavioral Science	3
MATH 151 Calculus I	5	KINE/HPWA Activity (2 courses)	<u>2</u>
General Education Humanities	<u>3</u>		15
	15		

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 102 General Organismal Biology	3
CHEM 131 General Chemistry	4	BIOL 102L General Organismal Biology Lab	1
CHEM 131L General Chemistry Lab	1	STAT 200 Probability and Statistics	3
PHYS 111 General Physics <u>and</u>	4	General Education Social/Behavioral Science or Humanities	3
PHYS 111L General Physics Lab <u>OR</u>	1	General Education Natural Science	<u>3</u>
PHYS 131 Fundamental Mechanics <u>and</u>	4		16
PHYS 131L Fundamental Mechanics Lab	1		
KINE/HPWA 100 Health and Wellness	<u>1</u>		
	17		

JUNIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
GEOL 301 Structural Geology	3	General Education Fine Arts	3
GEOL 301L Structural Geology	1	General Education Applied Studies	3
GEOL 331 Crystallography & Mineralogy	3	General Education Social/Behavioral Science	3
GEOL 331L Crystallography & Mineralogy Lab	1	Restricted Electives	<u>4</u>
GEOL 355 Basic Hydrology	3		13
General Education Natural Science with Lab	3-4		
	14-15		

SENIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
GEOL 402 Applications of Geomorphology	3	GEOL 415 Introduction to Ground Water	3
GEOL 402L Applications of Geomorphology	1	GEOL 415L Introduction to Ground Water Lab	1
Restricted Electives	3	GEOL 444 Stratigraphy and Sedimentation	3
Electives	5-6	GEOL 444L Stratigraphy and Sedimentation	1
	12-13	GEOL 490 Seminar	<u>3</u>
			11
Summer Semester	Hours		
GEOL 480 Field Studies	6		

* Either GEOL 111/111L or GEOL 113/113L may be taken for credit, but not both.