



2008 – 09 PETITION/PROGRAM SHEET

Degree: Bachelor of Science

Major: Physical Sciences

Concentration: Geology

www.mesastate.edu/schools/snsn/geology/

About This Major . . .

The Bachelor of Science degree with a concentration in geology is designed for students who: (1) desire a strong liberal arts education with emphasis on the earth sciences, (2) wish to pursue a graduate degree in geology, or (3) desire a professional or technical geo-science career. The degree program in geology is robust. 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 includes 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

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 120 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).
- 2.00 cumulative GPA or higher in all MSC coursework
- A "C" or higher is required in all major courses.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- 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.

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 "C" 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 151	Calculus I	5*			
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*3 credits apply to the General Ed requirements and 2 credits apply to elective credit

Humanities (3 semester hours)

_____	_____	_____	_____	_____	_____
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Social and Behavioral Sciences (6 semester hours)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Natural Sciences (7 semester hours, one course must include a lab)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____L	_____	_____	_____	_____

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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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)

_____	_____	_____	_____	_____	_____
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BACHELOR OF SCIENCE DEGREE DISTINCTION

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

STAT 200	Probability and Statistics	3			
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Humanities or Social/Behavioral Sciences: (3 semester hours)

_____	_____	_____	_____	_____	_____
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PHYSICAL SCIENCES – GEOLOGY MAJOR REQUIREMENTS

(69 semester hours) A "C" or higher is required in all major courses.

Required Geology Courses (47 semester hours)

GEOL 111/111L or GEOL 113/113L *

*GEOL	_____	3			
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*GEOL	_____L	1			
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* Either GEOL 111/111L or GEOL 113/113L may be taken for credit, but not both.

GEOL 112	Principles of Historical Geology	3			
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GEOL 112L	Principles of Historical Geology Lab	1			
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GEOL 202	Introduction to Field Studies	3			
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GEOL 204	Computer Applications in Geology	3			
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GEOL 301	Structural Geology	3			
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GEOL 301L	Structural Geology Lab	1			
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GEOL 331	Crystallography & Mineralogy	3			
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GEOL 331L	Crystallography & Mineralogy Lab	1			
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GEOL 340	Igneous & Metamorphic Petrology	3			
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GEOL 340L	Igneous & Metamorphic Petrology Lab	1			
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GEOL 402	Applications of Geomorphology	3			
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GEOL 402L	Applications of Geomorphology Lab	1			
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GEOL 404	Geophysics	3			
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GEOL 404L	Geophysics Lab	1			
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GEOL 444	Stratigraphy and Sedimentation	3			
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GEOL 444L	Stratigraphy and Sedimentation Lab	1			
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GEOL 480	Summer Field Camp	6			
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GEOL 490	Seminar	3			
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Required Support Courses (14 semester hours)

BIOL 102	General Organismal Biology	3			
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BIOL 102L	General Organismal Biology Lab	1			
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CHEM 131	General Chemistry	4			
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CHEM 131L	General Chemistry Lab	1			
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PHYS 111/111L or PHYS 131/131L

PHYS	_____	4			
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PHYS	_____L	1			
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Course No	Title	Sem.hrs	Grade	Term/Trns
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Restricted Electives (8 semester hours)

NOTE: Seven hours of Restricted and General Electives must be upper division.

Choose from GEOL 325, GEOL 355, GEOL 359, GEOL 361, GEOL 411, GEOL 411L, GEOL 415, GEOL 415L, GEOL 455, GEOL 455L, GEOL 497, ENVS 312, ENVS 312L, CHEM 132, CHEM 132L, MATH 152, STAT 311, *PHYS 112/112L or *PHYS 132/132L

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

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

Restricted Electives:

GEOL 325 Introduction to Engineering Geology
 GEOL 355 Basic Hydrology
 GEOL 359 Survey of Energy-Related Natural Resources
 GEOL 361 Survey of Mineral-Related Natural Resources
 GEOL 411 Paleontology
 Geol 411L Paleontology Lab
 GEOL 415 Introduction to Ground Water
 GEOL 415L Introduction to Ground Water Lab
 GEOL 455 River Dynamics
 GEOL 455L River Dynamics Lab
 GEOL 497 Structured Research

Course No	Title	Sem.hrs	Grade	Term/Trns
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ELECTIVES (All college level courses appearing on your final transcript, **not listed above** that will bring your total semester hours to 120 hours. 8 semester hours.)

NOTE: Seven hours of Restricted and General Electives must be upper division.

*MATH 151	Calculus I	2	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

ENVS 312 Soil Science and Sustainability
 ENVS 312L Soil Science and Sustainability Lab
 CHEM 132 General Chemistry
 CHEM 132L General Chemistry Lab
 MATH 152 Calculus II
 STAT 311 Statistical Methods
 PHYS 112 General Physics **and**
 PHYS 112L General Physics Lab **OR**
 PHYS 132 Electromagnetism and Optics **and**
 PHYS 132L Electromagnetism and Optics Lab

SUGGESTED COURSE SEQUENCING FOR A MAJOR IN PHYSICAL SCIENCE – 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 the assigned advisor and check the 2 year course matrix on the Mesa State website for course availability.

FRESHMAN YEAR

<u>Fall Semester</u>	<u>Hours</u>	<u>Spring Semester</u>	<u>Hours</u>
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 Health and Wellness	1
General Education History	<u>3</u>	KINA Activity	<u>1</u>
	15		15

SOPHOMORE YEAR

<u>Fall Semester</u>	<u>Hours</u>	<u>Spring Semester</u>	<u>Hours</u>
GEOL 202 Intro to Field Studies	3	GEOL 204 Computer Applications in Geology	3
CHEM 131 General Chemistry	4	BIOL 102 Gen. Organisms Biology	3
CHEM 131L General Chemistry Lab	1	BIOL 102L Gen. Organisms Biology Lab	1
PHYS 111** General Physics <u>and</u>	4	STAT 200 Probability and Statistics	3
PHYS 111L** General Physics Lab <u>OR</u>	1	General Education Natural Science	3
PHYS 131** Fundamental Mechanics <u>and</u>	4	General Education Fine Arts	<u>3</u>
PHYS 131L** Fundamental Mechanics Lab	1		16
General Education Social/Behavioral Science	3		
	16		

JUNIOR YEAR

<u>Fall Semester</u>	<u>Hours</u>	<u>Spring Semester</u>	<u>Hours</u>
GEOL 301 Structural Geology	3	GEOL 340 Igneous & Metamorphic Petrology	3
GEOL 301L Structural Geology Lab	1	GEOL 340L Igneous & Metamorphic Petrology Lab	1
GEOL 331 Crystallography & Mineralogy	3	Degree Distinction Social/Behavioral Science or Humanities	3
GEOL 331L Crystallography & Mineralogy Lab	1	KINA Activity	1
General Education Natural Science with Lab	4	Electives	<u>6</u>
General Education Applied Studies	<u>3</u>		14
	15		

SENIOR YEAR

<u>Fall Semester</u>	<u>Hours</u>	<u>Spring Semester</u>	<u>Hours</u>
GEOL 402 Applications of Geomorphology	3	GEOL 404 Geophysics	3
GEOL 402L Applications of Geomorphology	1	GEOL 404L Geophysics Lab	1
Restricted Electives	<u>8</u>	GEOL 444 Stratigraphy & Sedimentation	3
	12	GEOL 444L Stratigraphy & Sedimentation Lab	1
		GEOL 490 Seminar	<u>3</u>
			11
		<u>Summer Semester</u>	<u>Hours</u>
		GEOL 480 Summer Field Camp	6

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

**Either PHYS 111/111L or PHYS 131/131L may be taken for credit, but not both.