2008 – 09 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Environmental Science and Technology
Concentration: Environmental Science
www.mesastate.edu/schools/snsm/environsc

About This Major . . .

Our goal is to educate students in the science, protection, and restoration of our natural resources—air, water, land, and ecosystems. Our students develop a solid foundation in biology, chemistry, geology, mathematics, statistics, and communication skills, then apply this knowledge to the study and solution of environmental problems. We balance theory with hands-on practice, and include considerable work outdoors in our spectacular local environment. Individual and group projects are a key part of our courses. We also have students taking part in work done through partnerships with organizations such as the Colorado National Monument and the Colorado Division of Minerals and Geology. Students pursuing this degree must select one of the following three concentrations: Environmental Restoration and Waste Management; Environmental Science; and Environmental Science Education.

The concentration in Environmental Science focuses on management of natural resources. Students learn not only the basic science of air, water, soils, and ecosystems, but strategies for protection and restoration of these resources as well. Field work and projects are a key part of the coursework. This concentration is particularly appropriate for students planning to attend graduate school.

Graduates from this concentration are working for consulting firms and government agencies such as the U.S. Bureau of Land Management and the U.S. Geological Survey. Several of our students have also gone on to graduate school at the Colorado School of Mines and Colorado State University, among others.

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.

_____ _____ 20_____
Signature of 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 120 semester hours total and meet the academic residency requirements to earn a baccalaureate degree at Mesa State College.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- 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 courses listed as major requirements.
- 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

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: MATH 113 **or higher** (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 elective credit

Humanities (3 semester hours)

Social and Behavioral Sciences (6 semester hours)

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

History (3 semester hours)

Fine Arts (3 semester hours)

Course	No	Title	Sem.hrs	Grade	Term/Trns

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)

BACHELOR OF SCIENCE DEGREE DISTINCTION REQUIREMENTS (6 semester hours) Must receive a grade of "C" or better.

STAT	200	Probability and Statistics	3		

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

ENVIRONMENTAL SCIENCE AND TECHNOLOGY – ENVIRONMENTAL SCIENCE MAJOR REQUIREMENTS
(Required Environmental Science Courses, Required Support Courses, and Restricted Electives must total 64 semester hours.) A "C" or higher is required in all courses listed as major requirements.

Required Environmental Sciences Courses (28 semester hours)

ENVS	104	Environmental Science: Global Sustainability	3		
ENVS	204	Introduction to Ecosystem Management	3		
ENVS	204L	Introduction to Ecosystem Management Lab	1		
ENVS	221	Science & Technology of Pollution Control	3		
ENVS	221L	Science & Technology of Pollution Control Lab	1		
ENVS	312	Soils & Sustainability	3		
ENVS	312L	Soils & Sustainability Lab	1		
ENVS	331	Water Quality	3		
ENVS	331L	Water Quality Lab	1		
ENVS	340	Applied Atmospheric Science	3		
ENVS	455	Restoration Ecology	3		
ENVS	455L	Restoration Ecology Lab	1		
ENVS	492	Capstone in Environmental Science & Technology	2		

Required Support Courses (21-22 semester hours)

POLS	488	Environmental Politics	3		
MATH 151 **or** MATH 146:					
MATH			5		
BIOL	107	Principles of Plant Biology	3		
BIOL	107L	Principles of Plant Biology Lab	1		
CHEM 121/121L and CHEM 123 **or** CHEM 131/131L and CHEM 132/132L:					
CHEM			4		
CHEM	L		1		
CHEM					
CHEM					

Course No	Title	Sem.hrs	Grade	Term/Trns

Restricted Electives (14-15 semester hours)
Choose a minimum of 14-15 semester hours from ENVS 301, ENVS 313/313L, ENVS 315, ENVS 321, ENVS 332/332L, ENVS 350/350L, ENVS 360/360L, ENVS 396, ENVS 413, ENVS 420/420L, ENVS 431, ENVS 433, ENVS 460/460L, ENVS 496, ENVS 497

Course No	Title	Sem.hrs	Grade	Term/Trns

ELECTIVES (All college level courses appearing on your final transcript, **not listed above** that will bring your total semester hours to 120 hours. Includes upper division courses required to bring total upper division credit hours to 40. 13 semester hours.)

*MATH 113	College Algebra	1		

Required Courses:

BIOL 107/107L Principles of Plant Biology and Lab

One of the two following Chemistry course combinations:
CHEM 121/121L Principles of Chemistry and Lab **and** CHEM 123 Introduction to Environmental Chemistry **or**
CHEM 131/131L **and** CHEM 132/132L General Chemistry and Lab

One of the following:
MATH 146 Calculus for Biological Sciences
MATH 151 Calculus I

Restricted Electives – 14-15 semester hours chosen from
ENVS 301 Environmental Project Management
ENVS 313 Characterization Of Contaminated Sites
ENVS 313L Characterization Of Contaminated Sites Lab
ENVS 315 Mined Land Rehabilitation
ENVS 321 Environmental Risk Analysis
ENVS 332 Introduction to GIS
ENVS 332L Introduction to GIS Lab
ENVS 350 Ecol/Mgmt. Shrublands/Grasslands
ENVS 350L Ecol/Mgmt. Shrublands/Grasslands Lab
ENVS 360 Fire Ecology
ENVS 360L Fire Ecology Lab
ENVS 396 Topics
ENVS 413 Env. Fate & Transport of Contaminants
ENVS 420 Adv. Env. Samp. & Analytical Methods
ENVS 420L Adv. Env. Samp. & Analytical Methods Lab
ENVS 431 Water & Wastewater Treatment
ENVS 433 Restoration of Aquatic Systems
ENVS 460 Fire Management
ENVS 460L Fire Management Lab
ENVS 496 Topics
ENVS 497 Structured Research

SUGGESTED COURSE SEQUENCING FOR A MAJOR IN ENVIRONMENTAL SCIENCE AND TECHNOLOGY – ENVIRONMENTAL SCIENCE

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

Fall Semester		Hours
ENVS 104	Env. Science: Global Sustainability	3
ENGL 111	English Composition	3
MATH 113	College Algebra	4
KINE 100	Health and Wellness	1
General Education	History	3
		14

Spring Semester		Hours
BIOL 107/107L	Principles of Plant Biology with Lab	4
ENGL 112	English Composition	3
STAT 200	Probability and Statistics	3
General Education	Social/Behavioral Science	3
General Education	Natural Science	3
		16

SOPHOMORE YEAR

Fall Semester		Hours
ENVS 204/204L	Intro. to Ecosystem Management with Lab	4
CHEM 121/121L	Principles of Chemistry with Lab	5
OR		
CHEM 131/131L	General Chemistry with Lab	5
MATH 146	Calculus for Biology	5
OR		
MATH 151	Calculus I	5
KINA	Activity	1
		15

Spring Semester		Hours
ENVS 221/221L	Sci & Tech of Pollution Control with Lab	4
CHEM 123	Introduction to Environmental Chemistry	4
OR		
CHEM 132/132L	General Chemistry with Lab	5
General Education	Natural Science with Lab	4
General Education	Social/Behavioral Science	3
		15-16

JUNIOR YEAR

Fall Semester		Hours
ENVS 312/312L	Soils & Sustainability with Lab	4
ENVS 331/331L	Water Quality with Lab	4
POLS 488	Environmental Politics	3
General Education	Applied Studies	3
KINA	Activity	1
		15

Spring Semester		Hours
ENVS 340	Applied Atmospheric Science	3
Restricted Electives		6
General Education	Humanities	3
General Education	Fine Arts	3
		15

SENIOR YEAR

Fall Semester		Hours
Degree Distinction	Social/Behavioral Science or Humanities	3
Restricted Electives		8-9
Unrestricted Electives		3
		14-15

Spring Semester		Hours
ENVS 492	Capstone in ENVS	2
ENVS 455/455L	Restoration Ecology with Lab	4
Unrestricted Electives		9
		15