



2012-2013 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Environmental Science and Technology

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, 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 must choose either the Pollution Monitoring & Control option, which focuses on pollution prevention as well as investigation and cleanup, or the Ecosystem Restoration option, which focuses on strategies for managing natural resources.

Over 90% of our graduates have gone on to positions in the environmental profession or continued their studies in graduate school (e.g., Colorado School of Mines, Colorado State University). Graduates work for consulting firms, industry, and government agencies (e.g., U.S. Bureau of Land Management, U.S. Geological Survey, U.S. Army Corps of Engineers).

For more information on what you can do with this major, go to <http://www.coloradomesa.edu/career/whatmajor.html>.

POLICIES:

1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the 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 _____ 20_____
Date

Signature of Department Head _____ 20_____
Date

Signature of Registrar _____ 20_____
Date

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:

- 120 semester hours total (A minimum of 28 taken at CMU in no fewer than two semesters).
- 40 upper division credits (A minimum of 15 taken at the 300-400 course levels within the major at CMU).
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- 2.00 cumulative GPA or higher in all CMU coursework
- A "C" or higher is required in all courses listed as major requirements.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student's responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student's faculty advisor and Department Head.
- When filling out the program sheet a course can be used only once.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.

GENERAL EDUCATION REQUIREMENTS (31 semester hours)

See the current 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.)

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|------------------------------|---|-------|-------|
| ENGL 111 English Composition | 3 | _____ | _____ |
| ENGL 112 English Composition | 3 | _____ | _____ |

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.)

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|--------------------------|----|-------|-------|
| MATH 113 College Algebra | 4* | _____ | _____ |
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*3 credits apply to the General Ed requirements and 1 credit applies to elective credit

Humanities (3 semester hours)

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Social and Behavioral Sciences (6 semester hours)

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

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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)

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| KINE 100 Health and Wellness | 1 | _____ | _____ |
| KINA 1_____ | 1 | _____ | _____ |
| KINA 1_____ | 1 | _____ | _____ |

Applied Studies (3 semester hours)

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FOUNDATION COURSES (9-10 semester hours) A "C" or higher is required in all Foundation Courses.

Must choose either CHEM 121/121L **and** CHEM 123 **or** CHEM 131/131L **and** CHEM 132/132L. Students who plan to attend graduate school should take CHEM 131/131L and CHEM 132/132L.

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| CHEM 121 Principles of Chemistry | 4 | _____ | _____ |
| CHEM 121L Principles of Chemistry Lab | 1 | _____ | _____ |
| CHEM 123 Introduction to Environmental Chemistry | 4 | _____ | _____ |

OR

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| CHEM 131 General Chemistry | 4 | _____ | _____ |
| CHEM 131L General Chemistry Lab | 1 | _____ | _____ |
| CHEM 132 General Chemistry | 4 | _____ | _____ |
| CHEM 132L General Chemistry Lab | 1 | _____ | _____ |

ENVIRONMENTAL SCIENCE AND TECHNOLOGY –MAJOR REQUIREMENTS (57 semester hours) A "C" or higher is required in all courses listed as major requirements.

Core Environmental Science Courses (28-29 semester hours) All

students complete the following courses:

ENVS 104 Environmental Science: Global Sustainability (3) **OR** ENVS 101 Introduction to Environmental Science (3) **AND** ENVS 105

Readings in Environmental Science (1):

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|------------|-------|-------|-------|
| ENVS _____ | _____ | _____ | _____ |
| ENVS _____ | _____ | _____ | _____ |

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| ENVS 204 Introduction to Ecosystem Management | 3 | _____ | _____ |
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| ENVS 204L Introduction to Ecosystem Management Lab | 1 | _____ | _____ |
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| ENVS 221 Science & Technology of Pollution Control | 3 | _____ | _____ |
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| ENVS 221L Science & Technology of Pollution Control Lab | 1 | _____ | _____ |
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| ENVS 331 Water Quality | 3 | _____ | _____ |
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| ENVS 331L Water Quality Lab | 1 | _____ | _____ |
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| ENVS 340 Applied Atmospheric Science | 3 | _____ | _____ |
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| ENVS 492 Capstone in Environmental Science & Technology | 2 | _____ | _____ |
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| STAT 200 Probability & Statistics | 3 | _____ | _____ |
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Must choose either MATH 146 **or** MATH 151:

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| MATH 146 Calculus for the Biological Sciences | 5 | _____ | _____ |
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OR

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| MATH 151 Calculus I | 5 | _____ | _____ |
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Environmental Science Options (14-15 semester hours) Students complete either the Pollution Monitoring & Control Option or the Ecosystem Restoration Option.

| Course No | Title | Sem.hrs | Grade | Term/Trns |
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| Pollution Monitoring & Control Option (14 semester hours) | | | | |
| ENVS 212 | Environmental Health & Safety | 2 | | |
| ENVS 212L | Environmental Health & Safety Lab | 1 | | |
| ENVS 410 | Environmental Regulatory Compliance | 3 | | |
| ENVS 420 | Pollution Investigation & Monitoring | 3 | | |
| ENVS 420L | Pollution Investigation & Monitoring Lab | 1 | | |
| GEOL 111 | Physical Geology | 3 | | |
| GEOL 111L | Physical Geology Lab | 1 | | |

Ecosystem Restoration Option (15 semester hours)

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|-----------|---------------------------------|---|--|--|
| ENVS 312 | Soils & Sustainability | 3 | | |
| ENVS 312L | Soils & Sustainability Lab | 1 | | |
| ENVS 455 | Restoration Ecology | 3 | | |
| ENVS 455L | Restoration Ecology Lab | 1 | | |
| POLS 488 | Environmental Politics | 3 | | |
| BIOL 107 | Principles of Plant Biology | 3 | | |
| BIOL 107L | Principles of Plant Biology Lab | 1 | | |

Restricted Electives (13-15 semester hours)

Students select additional ENVS courses to bring total credit hours for this section to 57: ENVS 212/212L, ENVS 301, ENVS 312/312L, ENVS 315, ENVS 321, ENVS 332/332L, ENVS 350/350L, ENVS 360/360L, ENVS 370, ENVS 374, ENVS 394, ENVS 396, ENVS 413, ENVS 420/420L, ENVS 431, ENVS 433, ENVS 455/455L, ENVS 460/460L, ENVS 475, ENVS 496, ENVS 497

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Restricted Electives – 13-15 semester hours chosen from

ENVS 212 Environmental Health & Safety
 ENVS 212L Environmental Health & Safety Lab
 ENVS 301 Environmental Project Management
 ENVS 312 Soil Science & Sustainability
 ENVS 312L Soil Science & Sustainability 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 370 Renewable Energy
 ENVS 374 Sustainable Building

| 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. Includes upper division courses required to bring total upper division credit hours to 40. 16-17 semester hours.)

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| *MATH 113 | College Algebra | 1 | | |
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ENVS 394 Natural Resources of the West
 ENVS 396 Topics
 ENVS 413 Env. Fate & Transport of Contaminants
 ENVS 420 Pollution Investigation & Monitoring
 ENVS 420L Pollution Investigation & Monitoring Lab
 ENVS 431 Water & Wastewater Treatment
 ENVS 433 Restoration of Aquatic Systems
 ENVS 455 Restoration Ecology
 ENVS 455L Restoration Ecology Lab
 ENVS 460 Fire Management
 ENVS 460L Fire Management Lab
 ENVS 475 Experimental Design & Statistical Analysis in Environmental Science
 ENVS 496 Topics
 ENVS 497 Structured Research

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

Pollution Monitoring & Control Option (PMC) or Ecosystem Restoration Option (ER)

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 Colorado Mesa website for course availability.

FRESHMAN YEAR

| <u>Fall Semester</u> | <u>Hours</u> | <u>Spring Semester</u> | <u>Hours</u> |
|---|--------------|---|--------------|
| ENVS 104 Env Science: Global Sustainability | 3 | GEOL 111/111L Princ of Physical Geology with Lab (PMC) | 4 |
| ENGL 111 English Composition | 3 | OR | |
| MATH 113 College Algebra | 4 | BIOL 107/107L Principles of Plant Biology with Lab (ER) | 4 |
| KINE 100 Health and Wellness | 1 | ENGL 112 English Composition | 3 |
| General Education Natural Science with Lab | <u>4</u> | STAT 200 Probability and Statistics | 3 |
| | 15 | General Education Social/Behavioral Science | 3 |
| | | General Education Natural Science | <u>3</u> |
| | | | 16 |

SOPHOMORE YEAR

| <u>Fall Semester</u> | <u>Hours</u> | <u>Spring Semester</u> | <u>Hours</u> |
|--|--------------|--|--------------|
| ENVS 204/204L Intro to Ecosystem Management with Lab | 4 | ENVS 221/221L Sci & Tech of Pollution Control with Lab | 4 |
| CHEM 121/121L Principles of Chemistry with Lab | 5 | CHEM 123 Introduction to Environmental Chemistry | 4 |
| OR | | OR | |
| CHEM 131/131L General Chemistry with Lab | 5 | CHEM 132/132L General Chemistry with Lab | 5 |
| General Education History | 3 | MATH 146 Calculus for Biology | 5 |
| Restricted Elective | 1 | OR | |
| KINA Activity | <u>1</u> | MATH 151 Calculus I | 5 |
| | 14 | General Education Social/Behavioral Science | <u>3</u> |
| | | | 16-17 |

JUNIOR YEAR

| <u>Fall Semester</u> | <u>Hours</u> | <u>Spring Semester</u> | <u>Hours</u> |
|--|--------------|--|--------------|
| Restricted Electives (PMC) | 3 | ENVS 212/212L Env Health & Safety (PMC) | 3 |
| OR | | OR | |
| ENVS 312/312L Soils & Sustainability with Lab (ER) | 4 | Restricted Electives (ER) | 2 |
| ENVS 331/331L Water Quality with Lab | 4 | ENVS 340 Applied Atmospheric Science | 3 |
| General Education Humanities | 3 | ENVS 410 Env Regulatory Compliance (PMC) | 3 |
| General Education Applied Studies | 3 | OR | |
| KINA Activity | <u>1</u> | POLS 488 Environmental Politics (ER) | 3 |
| | 14-15 | Restricted Electives | 3 |
| | | General Education Fine Arts | <u>3</u> |
| | | | 14-15 |

SENIOR YEAR

| <u>Fall Semester</u> | <u>Hours</u> | <u>Spring Semester</u> | <u>Hours</u> |
|------------------------|--------------|--|--------------|
| Restricted Electives | 7 | ENVS 492 Capstone in ENVS | 2 |
| Unrestricted Electives | <u>7-8</u> | ENVS 420/420L Poll. Inv. & Monitoring w/ Lab (PMC) | 4 |
| | 14-15 | OR | |
| | | ENVS 455/455L Restoration Ecology with Lab (ER) | 4 |
| | | Unrestricted Electives | <u>9</u> |
| | | | 15 |