2014-2015 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Environmental Science and Technology

About This Major . . .

We 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. Our students have opportunities to take part in work done through partnerships with organizations such as the Colorado National Monument and the Bureau of Land Management. 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.

The majority of our graduates take positions as environmental professionals with consulting firms, industry, and government agencies (e.g., U.S. Bureau of Land Management, U.S. Geological Survey, and U.S. Army Corps of Engineers). Some continue their studies in graduate school (e.g., Colorado School of Mines, Colorado State University, University of Denver).

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

All CMU baccalaureate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Demonstrate an understanding of terminology, concepts, theories, and practices in environmental science. (Specialized Knowledge)
2. Demonstrate the ability to design an environmental study. (Applied Learning)
3. Demonstrate the ability to analyze quantitative environmental data, effectively translate data into graphs or tables, and interpret results. (Quantitative Fluency)
4. Demonstrate the ability to use appropriate tools, technology, and methods for measuring and analyzing environmental data. (Applied Learning)
5. Identify and evaluate assumptions, hypotheses, and alternative views on environmental problems, then articulate implications and form conclusions. (Critical Thinking)
6. Construct an organized argument (oral and written) supported by current research on a technical issue in environmental science appropriate for a specialized audience. (Communication Fluency)

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 have read and understand the policies listed on the last page of this 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:

- 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
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		
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)					
	L				
History (3 semester hours)					
HIST					
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)					
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.					
CHEM	121	Principles of Chemistry	4		
CHEM	121L	Principles of Chemistry Lab	1		
CHEM	123	Introduction to Environmental Chemistry	4		
OR					
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):					
ENVS					
ENVS					
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	331	Water Quality	3		
ENVS	331L	Water Quality Lab	1		
ENVS	340	Applied Atmospheric Science	3		
ENVS	492	Capstone in Environmental Science & Technology	2		
STAT	200	Probability & Statistics	3		
Must choose either MATH 146 **or** MATH 151:					
MATH	146	Calculus for the Biological Sciences	5		
OR					
MATH	151	Calculus I	5		

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

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)

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 337, ENVS 350/350L, ENVS 354, 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

_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____

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. 16-17 semester hours.)

*MATH 113	College Algebra	1	_____	_____
_____	____ _____	____	_____	_____
_____	____ _____	____	_____	_____
_____	____ _____	____	_____	_____
_____	____ _____	____	_____	_____
_____	____ _____	____	_____	_____
_____	____ _____	____	_____	_____
_____	____ _____	____	_____	_____
_____	____ _____	____	_____	_____

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 337 Stream Biomonitoring
ENVS 350 Ecol/Mgmt. Shrublands/Grasslands
ENVS 350L Ecol/Mgmt. Shrublands/Grasslands Lab
ENVS 354 Forest Ecology and Management
ENVS 360 Fire Ecology
ENVS 360L Fire Ecology Lab
ENVS 370 Renewable Energy
ENVS 374 Sustainable Building
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

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	Natural Science with Lab	4
		15

Spring Semester		Hours
GEOL 111/111L	Princ of Physical Geology with Lab (**PMC**)	4
OR		
BIOL 107/107L	Principles of Plant Biology with Lab (**ER**)	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
General Education	History	3
Restricted Elective		1
KINA	Activity	1
		14

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
MATH 146	Calculus for Biology	5
OR		
MATH 151	Calculus I	5
General Education	Social/Behavioral Science	3
		16-17

JUNIOR YEAR

Fall Semester		Hours
Restricted Electives (**PMC**)		3
OR		
ENVS 312/312L	Soils & Sustainability with Lab (**ER**)	4
ENVS 331/331L	Water Quality with Lab	4
General Education	Humanities	3
General Education	Applied Studies	3
KINA	Activity	1
		14-15

Spring Semester		Hours
ENVS 212/212L	Env Health & Safety (**PMC**)	3
OR		
Restricted Electives (**ER**)		2
ENVS 340	Applied Atmospheric Science	3
ENVS 410	Env Regulatory Compliance (**PMC**)	3
OR		
POLS 488	Environmental Politics (**ER**)	3
Restricted Electives		3
General Education	Fine Arts	3
		14-15

SENIOR YEAR

Fall Semester	Hours
Restricted Electives	7
Unrestricted Electives	7-8
	14-15

Spring Semester		Hours
ENVS 492	Capstone in ENVS	2
ENVS 420/420L	Poll. Inv. & Monitoring w/ Lab (**PMC**)	4
OR		
ENVS 455/455L	Restoration Ecology with Lab (**ER**)	4
Unrestricted Electives		9
		15

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).