



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

This program of study, along with the education courses required for teacher licensure, prepares students to teach general and environmental science in grades 7-12. Students receive broad preparation in biology, chemistry, geology, and physics as well as environmental science. Our emphasis is on learning to use environmental topics as a framework for integrating the range of subjects (the sciences in particular) and Colorado content standards covered at each grade level.

A minimum of 75 credit hours of general education and content area coursework must be completed with a minimum GPA of 2.80 before a candidate may apply for admission to the Center for Teacher Education secondary licensure program. You must be formally accepted into the Teacher Education Program before taking education courses. Please see the Teacher Education Admission Packet for further information on admissions criteria.

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 may 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 Content Advisor

Date

20____

Signature of Department Head

Date

20____

Signature of Registrar

Date

20____

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

Degree Requirements:

- Must earn 120-121 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).
- 2.80 cumulative GPA or higher in all MSC coursework
- A cumulative grade point average of 2.8 or higher must be maintained for each of 3 areas: content courses, education courses and overall GPA.
- No grades lower than "C" are accepted in required major courses, restricted electives, and required courses in other sciences.
- 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.
- Students must PASS the PLACE or PRAXIS II exam in the content area prior to commencing the internship. Also, ALL other coursework toward the degree must be successfully completed prior to the internship.

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 "B" 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**				
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*Math 113 or higher level math as approved by advisor

**3 credits apply to the General Ed requirements and 1 credit applies to Required Core Course credit

Humanities (3 semester hours)

Social and Behavioral Sciences (6 semester hours)

PSYC 233 Human Growth & Development	3				
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(PSYC 233 required with a grade of "B" or better)

History (3 semester hours)

HIST					
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Course	No	Title	Sem.hrs	Grade	Term/Trns
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Fine Arts (3 semester hours)

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

Need a "C" or higher Choose two courses from PHYS 101, GEOL 103, GEOL 105, GEOL 111/111L, GEOL 112/112L, GEOL 203

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)

SPCH 102 Speechmaking	3				
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(SPCH 102 Required with a grade of "B" or better)

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)

ENVIRONMENTAL SCIENCE – LEADING TO SECONDARY TEACHER LICENSURE MAJOR REQUIREMENTS

(Required Environmental Science courses, Restricted Electives, Required Courses in Other Sciences, and Secondary Education Requirements must total 77 semester hours.) A "C" or higher is required in all courses listed as major requirements.

Required Environmental Science Courses (18 semester hours)

ENVS 104 Environmental Science: Global Sustainability	3				
ENVS 312 Soil Science and Sustainability	3				
ENVS 312L Soil Science and Sustainability Lab	1				
ENVS 331 Water Quality	3				
ENVS 331L Water Quality Lab	1				
ENVS 340 Applied Atmospheric Science	3				
ENVS 430 Laboratory Methods for Environmental Education	3				
*MATH 113 College Algebra	1				

Restricted Electives (7-10 semester hours from ENVS courses)

ENVS					
ENVS					
ENVS					
ENVS					

Course No	Title	Sem.hrs	Grade	Term/Trns
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Required Courses in Other Sciences (20-23 semester hours minimum)

Biology – 8 semester hours

BIOL 105	Attributes of Living Systems	3		
BIOL 105L	Attr. of Living Systems Lab	1		
BIOL 209	Anatomy & Physiology I	3		
BIOL 209L	Anatomy & Physiology I Lab	1		

Chemistry – 9-10 semester hours selected from CHEM 121/121L **and** CHEM 122/122L or CHEM 123, **or** CHEM 131/131L **and** CHEM 132/132L

CHEM _____				
CHEM _____L				
CHEM _____				
CHEM _____				

Physics – 3-5 semester hours selected from PHYS 100, PHYS 105, or PHYS 111/111L

PHYS _____				
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*Students must PASS the PLACE or PRAXIS II exam in the content area prior to commencing the internship. Also, ALL other coursework toward the degree must be successfully completed prior to the internship.

Required Courses in Other Sciences

Biology – 8 semester hours:

BIOL 105/105L Attributes of Living Systems and Lab
BIOL 209/209L Human Anatomy and Physiology I and Lab

Chemistry – 10 semester hours selected from:

CHEM 121/121L Principles of Chemistry and Lab **and** CHEM 122/122L Principles of Organic Chemistry and Lab or CHEM 123 Introduction to Environmental Chemistry
CHEM 131/131L General Chemistry and Lab **and** CHEM 132/132L General Chemistry and Lab

Physics – 3-5 semester hours minimum chosen from:

PHYS 100 Concepts of Physics
PHYS 105/105L Physics by Inquiry and Lab
PHYS 111/111L General Physics and Lab

Secondary Education Requirements (29 semester hours)

*Prerequisites: ENGL 111, ENGL 112, SPCH 102, PSYC 233, EDUC 211 (all with grade of B or better) MATH 113 or higher (with grade of C or higher), and declared major in Environmental Science – Leading to Secondary Teacher Licensure and formal acceptance to the Teacher Education Program.

EDUC 211 Foundations of Education	2 semester hours	20 Field Experience Hours
*EDUC 342 Pedagogy & Assessment: Secondary/K-12	3 semester hours	20 Field Experience Hours
*EDUC 343 Teaching to Diversity	3 semester hours	20 Field Experience Hours
EDUC 442 Integrating Literacy Across the Curriculum	5 semester hours	60 Field Experience Hours
EDUC 497 Content Methodology Practicum	3 semester hours	80 Field Experience Hours with EDUC 497D
EDUC 497D Methods of Teaching Secondary Science	1 semester hour	
EDUC 499G Teaching Internship and Colloquium	12 semester hours	600 Field Experience Hours

Course No	Title	Sem.hrs	Grade	Term/Trns
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PHYS _____

Secondary Education Requirements (29 Semester Hours)

*Prerequisites: ENGL 111, ENGL 112, SPCH 102, PSYC 233, EDUC 211 (all with a grade of B or better), MATH 113 or higher (with grade of C or higher), Declared major in Environmental Science– Leading to Secondary Teacher Licensure and formal acceptance to the Teacher Education Program

EDUC 211	Foundations of Education	2		
EDUC 342*	Pedagogy & Assessment: Secondary/K-12	3		
EDUC 343*	Teaching to Diversity	3		
EDUC 442	Integrating Literacy Across the Curriculum	5		
EDUC 497	Content Methodology Practicum	3		
EDUC 497D	Methods of Teaching Secondary Science	1		
EDUC 499G	Teaching Internship and Colloquium	12		

SUGGESTED COURSE SEQUENCING FOR A MAJOR IN ENVIRONMENTAL SCIENCE – LEADING TO SECONDARY TEACHER LICENSURE

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	Spring Semester	Hours
ENGL 111 English Composition	3	ENGL 112 English Composition	3
MATH 113 College Algebra	4	STAT 200 Probability and Statistics	3
General Education History	3	General Education Humanities	3
PSYC 233 Human Growth and Development	3	General Education Social/Behavioral Science	3
General Education Natural Science	<u>3</u>	General Education Natural Science with lab	<u>4</u>
	16		16

SOPHOMORE YEAR

Fall Semester	Hours	Spring Semester	Hours
ENVS 104 Env. Science: Global Sustainability	3	BIOL 105/105L Attributes of Living Systems with Lab	4
CHEM 121/121L Principles of Chemistry with Lab	5	CHEM 122/122L Principles of Organic Chemistry with Lab	5
OR		OR	
CHEM 131/131L General Chemistry with Lab	5	CHEM 123 Introduction to Environmental Chemistry	4
KINE 100 Health and Wellness	1	OR	
SPCH 102 Speechmaking	3	CHEM 132/132L General Chemistry with Lab	5
Degree Distinction Social/Behavioral Science or Humanities	<u>3</u>	*EDUC 211 Foundations in Education	2
	15	General Education Fine Arts	3
		Restricted Electives	<u>3</u>
			16-17

*Must be taken prior to acceptance into the Center for Teacher Education. Offered in summer, fall and spring semesters.

JUNIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
ENVS 331 Water Quality	3	ENVS 340 Applied Atmospheric Science	3
ENVS 331L Water Quality Lab	1	ENVS 430 Lab Methods in Env. Education	3
PHYS 100 Concepts of Physics	3	EDUC 342 Pedagogy/Assessment: Secondary/K-12	3
OR		EDUC 343 Teaching to Diversity	3
PHYS 105/105L Physics by Inquiry with Lab	4	Restricted Electives	<u>0-3</u>
OR			12-15
PHYS 111/111L General Physics with Lab	5		
BIOL 209/209L Human Anatomy & Physiology I with Lab	4		
Restricted Electives	<u>4</u>		
	15-17		

SENIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
ENVS 312 Soil Science & Sustainability	3	EDUC 499G Teach. Intern/Colloquium: Secondary	<u>12</u>
ENVS 312L Soil Science & Sustainability Lab	1		12
EDUC 442 Integrating Literacy: Secondary/K-12 Art	5		
EDUC 497 Content Methods Practicum	3		
EDUC 497D Methods of Teaching Secondary Science	1		
KINA Activity (2 courses)	<u>2</u>		
	15		