



**2008 – 09 PETITION/PROGRAM SHEET**  
**Degree: Bachelor of Science**  
**Major: Biological Sciences**  
**Concentration: Biology, Secondary Teaching**  
[www.mesastate.edu/schools/snm/biology/teaching.htm](http://www.mesastate.edu/schools/snm/biology/teaching.htm)

**About This Major . . .**

The Biology Program offers coursework, in conjunction with the Center for Teacher Education, leading to licensure in Secondary Education Science. Graduates of the program may teach locally or elsewhere in the state of Colorado, or may use their teaching expertise in other careers.

The Biology Program provides a broad background in the biological sciences. Students choose biology courses from four areas: cell, developmental, and molecular biology; anatomical and physiological biology; organismal biology; and ecology, evolution and systematics. Students wishing to obtain teacher certification complete a concentration in Teacher Licensure. The Biology Program also offers field courses on tropical ecosystems in Ecuador and on marine invertebrate communities in Oregon. The Department of Biology operates the only electron microscope facility in the area.

The secondary licensure program provides teacher education candidates a broad field content knowledge in science and prepares them as teachers for grades 7-12. 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 the semester you graduate, 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 Content 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 122 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
- 2.80 cumulative GPA or higher in coursework toward the major content area
- A cumulative grade point average of 2.8 or higher must be maintained for each of 3 areas: content courses, education courses and overall g.p.a.
- 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
--------	----	-------	---------	-------	-----------

**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*	_____	_____
----------	-----------------	----	-------	-------

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

**Humanities** (3 semester hours)

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

PSYC 233	Human Growth & Development	3	_____	_____
----------	----------------------------	---	-------	-------

(PSYC 233 required with a grade of "B" or better)

**Fine Arts** (3 semester hours)

Course	No	Title	Sem.hrs	Grade	Term/Trns
--------	----	-------	---------	-------	-----------

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

BIOL 105	Attributes of Living Systems	3	_____	_____
----------	------------------------------	---	-------	-------

BIOL 105L	Attributes of Living Systems		_____	_____
-----------	------------------------------	--	-------	-------

Lab		1	_____	_____
-----	--	---	-------	-------

Chose one from ENV5 101, GEOL 103, GEOL 104, GEOL 105, PHYS 101

**History** (3 semester hours)

HIST	_____	_____	_____	_____
------	-------	-------	-------	-------

**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	_____	_____
----------	--------------	---	-------	-------

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	_____	_____
----------	----------------------------	---	-------	-------

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

**BIOLOGY – LEADING TO SECONDARY MAJOR**

**REQUIREMENTS** (79 semester hours)

**Required Courses** (40 semester hours)

BIOL 106	Principles of Animal Biology	3	_____	_____
----------	------------------------------	---	-------	-------

BIOL 106L	Principles of Animal Biology		_____	_____
-----------	------------------------------	--	-------	-------

Lab		1	_____	_____
-----	--	---	-------	-------

BIOL 107	Principles of Plant Biology	3	_____	_____
----------	-----------------------------	---	-------	-------

BIOL 107L	Principles of Plant Biology Lab	1	_____	_____
-----------	---------------------------------	---	-------	-------

BIOL 386	Introduction to Science Ed	3	_____	_____
----------	----------------------------	---	-------	-------

CHEM 121	Principles of Chemistry	4	_____	_____
----------	-------------------------	---	-------	-------

CHEM 121L	Principles of Chemistry Lab	1	_____	_____
-----------	-----------------------------	---	-------	-------

CHEM 122	Principles of Organic Chemistry	4	_____	_____
----------	---------------------------------	---	-------	-------

CHEM 122L	Principles of Organic Chemistry		_____	_____
-----------	---------------------------------	--	-------	-------

Lab		1	_____	_____
-----	--	---	-------	-------

*MATH 113	College Algebra	1	_____	_____
-----------	-----------------	---	-------	-------

**Chose either GEOL 111/111L or GEOL 113/113L**

GEOL	_____	3	_____	_____
------	-------	---	-------	-------

GEOL	_____	1	_____	_____
------	-------	---	-------	-------

GEOL 112	Principles of Historical Geology	3	_____	_____
----------	----------------------------------	---	-------	-------

GEOL 112L	Principles of Historical Geology		_____	_____
-----------	----------------------------------	--	-------	-------

Lab		1	_____	_____
-----	--	---	-------	-------

PHYS 111	General Physics	4	_____	_____
----------	-----------------	---	-------	-------

PHYS 111L	General Physics Lab	1	_____	_____
-----------	---------------------	---	-------	-------

PHYS 112	General Physics	4	_____	_____
----------	-----------------	---	-------	-------

PHYS 112L	General Physics Lab	1	_____	_____
-----------	---------------------	---	-------	-------

**Biology Electives** (10 Upper Division Semester Hours)

BIOL	_____	_____	_____	_____
------	-------	-------	-------	-------

BIOL	_____	_____	_____	_____
------	-------	-------	-------	-------

BIOL	_____	_____	_____	_____
------	-------	-------	-------	-------

BIOL	_____	_____	_____	_____
------	-------	-------	-------	-------

BIOL	_____	_____	_____	_____
------	-------	-------	-------	-------

Course No	Title	Sem.hrs	Grade	Term/Trns
-----------	-------	---------	-------	-----------

**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 Biology – 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	_____	_____

Course No	Title	Sem.hrs	Grade	Term
-----------	-------	---------	-------	------

EDUC 497	Content Methodology Practicum	3	_____	_____
EDUC 497D	Methods of Teaching Secondary Science	1	_____	_____
EDUC 499G	Teaching Internship and Colloquium	12	_____	_____

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.

**Secondary Education Requirements:**

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

## SUGGESTED COURSE SEQUENCING FOR A MAJOR IN BIOLOGY – 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
BIOL 105	Attributes of Living Systems	3	BIOL 106	Principles of Animal Biology	3
BIOL 105L	Attributes of Living Systems Lab	1	BIOL 106L	Principles of Animal Biology Lab	1
ENGL 111	English Composition	3	ENGL 112	English Composition	3
CHEM 121	Principles of Chemistry	4	CHEM 122	Principles of Organic Chemistry	4
CHEM 121L	Principles of Chemistry Lab	1	CHEM 122L	Principles of Organic Chemistry Lab	1
MATH 113	College Algebra	<u>4</u>	STAT 200	Probability and Statistics	3
		16	KINA	Activity	<u>1</u>
					16

### SOPHOMORE YEAR

Fall Semester		Hours	Spring Semester		Hours
BIOL 107	Principles of Plant Biology	3	GEOL 111	Principles of Physical Geology <b><u>AND</u></b>	3
BIOL 107L	Principles of Plant Biology Lab	1	GEOL 111L	Principles of Physical Geology Lab	1
PHYS 111	General Physics	4	<b><u>OR</u></b>		
PHYS 111L	General Physics Lab	1	GEOL 113	Field-Based Intro. To Physical Geol. <b><u>AND</u></b>	3
PSYC 233	Human Growth and Development	3	GEOL 113L	Field-Based Intro. To Physical Geol Lab	1
KINE/ 100	Health and Wellness	1	PHYS 112	General Physics	4
General Education History		<u>3</u>	PHYS 112L	General Physics Lab	1
		16	General Education Natural Science		3
			<b><u>OR</u></b>		
			BIOL 386	Intro to Science Education	3
			General Education Humanities		3
			KINA	Activity	<u>1</u>
					16

### JUNIOR YEAR

Fall Semester			Hours	Spring Semester			Hours
*EDUC 211	Foundations of Education		2	EDUC 342	Pedagogy & Assessment: Secondary/K-12		3
GEOL 112	Principles of Historical Geology		3	EDUC 343	Teaching to Diversity		3
GEOL 112L	Principles of Historical Geology Lab		1	BIOL 386	Intro to Science Education		3
SPCH 102	Speechmaking		3	<u>OR</u>			
Electives	Upper Division Biology course		4	General Education Natural Science			3
Degree Distinction Humanities/Soc. & Behav. Sci			<u>3</u>	Electives	Upper Division Biology course		3
			16	General Education Social and Behavioral Science			<u>3</u>
*Must be taken prior to acceptance into the Center for Teacher							15

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

### SENIOR YEAR

Fall Semester		Hours	Spring Semester		Hours
EDUC 442	Integrating Literacy Across the Curriculum	5	EDUC 499G	Teaching Internship/Colloquium:Secondary	<u>12</u>
EDUC 497	Content Methodology Practicum	3			12
EDUC 497D	Methods of Teaching Secondary Science	1			
General Education Fine Arts		3			
Electives	Upper Division Biology course	<u>3</u>			
		15			