



2006 – 07 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Biological Sciences
Concentration: Biology, Secondary Teaching
www.mesastate.edu/schools/snsmbiology/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 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 Content Advisor _____ 20____
Date

Signature of Department Head _____ 20____
Date

Signature of Registrar _____ 20____
Date

- Must earn 125 semester hours and meet the academic residency requirements to earn a baccalaureate degree at Mesa State College.
- Must earn a minimum of 40 semester hours in upper division courses (i.e., 300-level and 400-level courses).
- A cumulative grade point average of 2.8 or higher must be maintained for all courses.
- When filling out this program sheet a course can only be used once, i.e., no double counting is allowed between categories.
- Excess KINA/HPWE courses beyond the two required and pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- All degree requirements must be completed as described. Any exceptions or substitutions must be recommended in advance by the faculty advisor and approved by the Department Head. Courses related to teacher licensure must also be approved by the Teacher Education Dept.
- It is recommended that students work closely with a faculty advisor when selecting courses and scheduling classes prior to registration.
- Students are required to participate in exit examinations or other programs deemed necessary to comply with the college accountability requirement.
- 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 (Minimum of 33 semester hours) See the M.S.C. catalog for the list of courses that meet the general education categories.

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
English: ENGL 111 and 112 (6 semester hours, must receive a "B" or better, must be completed by the time the student has 60 semester hours)							Humanities or Social/Behavioral Science: (3 semester hours)						
*ENGL	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
*ENGL	_____	_____	_____	_____	_____	_____	Fine Arts: (3 semester hours)						
*ENGL 129, Honors English, may be substituted for ENGL 111 and ENGL 112. Must earn a grade of "B" or better. May need to take additional electives.							_____	_____	_____	_____	_____	_____	_____
Humanities: (6 semester hours)							Natural Sciences: (minimum 6 semester hours, at least one course must include a lab)						
_____	_____	_____	_____	_____	_____	_____	BIOL	<u>105</u>	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	BIOL	<u>105L</u>	_____	_____	_____	_____	_____
Social and Behavioral Sciences: (6 semester hours)							Choose one course from ENV5 101, GEOL 103, GEOL 104, GEOL 105, CHEM 100, PHYS 101						
PSYC	<u>233</u>	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
(PSYC 233 required with a grade of "B" or better)							Applied Studies: (3 semester hours)						
							SPCH	<u>102</u>	_____	_____	_____	_____	_____
							(SPCH 102 Required with a grade of "B" or better)						

Other Requirements (10 semester hours)

Kinesiology: (3 Semester Hours)							Bachelor of Science Degree Distinction:						
Course	No.	Credit	Grade	Term	Year	Trns/Subs	(7 semester hours) Must earn a "C" or better in both courses.						
KINE/HPWA	<u>100</u>	<u>1</u>	_____	_____	_____	_____	Course	No.	Credit	Grade	Term	Year	Trns/Subs
KINA/HPWE	_____	<u>1</u>	_____	_____	_____	_____	MATH*	<u>113</u>	<u>4</u>	_____	_____	_____	_____
KINA/HPWE	_____	<u>1</u>	_____	_____	_____	_____	STAT	<u>200</u>	<u>3</u>	_____	_____	_____	_____
See the M.S.C. catalog for the list of approved KINA/HPWE/Selected DANC courses.							*Math 113 or higher level math as approved by advisor						

Biology – Leading to Secondary Teacher Licensure Major Requirements (80 Semester Hours)

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
Required Courses (41 semester hours)							*Choose either GEOL 111/111L or GEOL 113/113L						
BIOL	<u>106</u>	<u>3</u>	_____	_____	_____	_____	*GEOL	_____	<u>3</u>	_____	_____	_____	_____
BIOL	<u>106L</u>	<u>2</u>	_____	_____	_____	_____	*GEOL	_____	<u>1</u>	_____	_____	_____	_____
BIOL	<u>107</u>	<u>3</u>	_____	_____	_____	_____	GEOL	<u>112</u>	<u>3</u>	_____	_____	_____	_____
BIOL	<u>107L</u>	<u>2</u>	_____	_____	_____	_____	GEOL	<u>112L</u>	<u>1</u>	_____	_____	_____	_____
BIOL	<u>386</u>	<u>3</u>	_____	_____	_____	_____	PHYS	<u>111</u>	<u>4</u>	_____	_____	_____	_____
CHEM	<u>121</u>	<u>4</u>	_____	_____	_____	_____	PHYS	<u>111L</u>	<u>1</u>	_____	_____	_____	_____
CHEM	<u>121L</u>	<u>1</u>	_____	_____	_____	_____	PHYS	<u>112</u>	<u>4</u>	_____	_____	_____	_____
CHEM	<u>122</u>	<u>4</u>	_____	_____	_____	_____	PHYS	<u>112L</u>	<u>1</u>	_____	_____	_____	_____
CHEM	<u>122L</u>	<u>1</u>	_____	_____	_____	_____							

Continued on page 3

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
Biology Electives (10 Upper Division Semester Hours)													
BIOL	_____	_____	_____	_____	_____	_____	BIOL	_____	_____	_____	_____	_____	_____
BIOL	_____	_____	_____	_____	_____	_____	BIOL	_____	_____	_____	_____	_____	_____
BIOL	_____	_____	_____	_____	_____	_____	BIOL	_____	_____	_____	_____	_____	_____
BIOL	_____	_____	_____	_____	_____	_____	BIOL	_____	_____	_____	_____	_____	_____

Secondary Education Requirements (29 Semester Hours)

Course	No.	Credit	Grade	Term	Year	Trns/Subs	Course	No.	Credit	Grade	Term	Year	Trns/Subs
*Prerequisites: ENGL 111, ENGL 112, SPCH 102, PSYC 233 (all with a grade of B or better), Declared major in Biology – Leading to Secondary Teacher Licensure and formal acceptance to the Teacher Education Program													
EDUC	<u>211*</u>	<u>2</u>	_____	_____	_____	_____	EDUC	<u>497</u>	<u>3</u>	_____	_____	_____	_____
EDUC	<u>342</u>	<u>3</u>	_____	_____	_____	_____	EDUC	<u>497D</u>	<u>1</u>	_____	_____	_____	_____
EDUC	<u>343</u>	<u>3</u>	_____	_____	_____	_____	EDUC	<u>499G</u>	<u>12</u>	_____	_____	_____	_____
EDUC	<u>442</u>	<u>5</u>	_____	_____	_____	_____							

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.

GRADUATION INFORMATION

See the “Undergraduate Graduation Requirements” in the Mesa State College catalog for additional graduation information.

A 2.8 Minimum Cumulative Grade Point Average is required.

GENERAL EDUCATION REQUIREMENTS (Minimum of 33 Semester Hours) See current Mesa State College catalog for list of courses that fulfill the requirements below. If one (or more) of the selections below is required in your major, you must use it to fulfill the major requirement and **make a different selection to meet the general education requirement. The courses may not be used to fulfill both requirements.**

English – 6 Semester Hours (Must be **completed** before student has 60 semester hours. Must receive grade of “B” or above.)

ENGL 111 **and** ENGL 112 or ENGL 129 (*by permission*)

Humanities – 6 semester hours

Social and Behavioral Sciences – 6 semester hours (PSYC 233 required with a “B” or better.)

Humanities or Social/Behavioral Sciences – 3 semester hours

Fine Arts – 3 semester hours

Natural Sciences – 6 semester hours (BIOL 105 & 105L required.)

Choose one course from ENV5 101, GEOL 103, GEOL 104, GEOL 105, CHEM 100, PHYS 101

Applied Studies – 3 semester hours (SPCH 102 required with a “B” or better.)

OTHER REQUIREMENTS (10 Semester Hours)

Kinesiology – 3 Semester Hours

Each student must take KINE/HPWA 100 together with two KINA/HPWE/Selected DANC courses. See current catalog for listing.

Degree Distinction – 7 Semester Hours

MATH 113 College Algebra (Or a higher level math as approved by advisor) – 4 semester hours

STAT 200 Probability and Statistics - 3 semester hours

Biology – Leading to Secondary Teacher Licensure (80 Semester Hours)

Required Courses (41 semester hours):

BIOL 106 Principles of Animal Biology
BIOL 106L Principles of Animal Biology
Laboratory
BIOL 107 Principles of Plant Biology
BIOL 107L Principles of Plant Biology Laboratory
BIOL 386 Introduction to Science Education
CHEM 121 Principles of Chemistry
CHEM 121L Principles of Chemistry Laboratory
CHEM 122 Principles of Organic Chemistry
CHEM 122L Principles of Organic Chemistry Laboratory
PHYS 111 General Physics
PHYS 111L General Physics Laboratory
PHYS 112 General Physics
PHYS 112L General Physics Lab
GEOL 111/111L Principles of Physical Geology and Laboratory
or GEOL 113/113L Field-Based Introduction to Physical Geology and Laboratory
GEOL 112 Principles of Historical Geology
GEOL 112L Principles of Historical Geology Laboratory

Biology Electives (10 semester hours)

10 semester hours Upper Division Biology Courses

Secondary Education Requirements (29 semester hours)

*Prerequisites: ENGL 111, ENGL 112, SPCH 102, PSYC 233 (all with grade of B or better) and declared major in Biology – Leading to Secondary Teacher Licensure and formal acceptance into 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

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 internship.

Students are required to participate in exit examinations or other programs deemed necessary to comply with the college accountability requirement. All degree requirements must be completed as described above. Any exceptions or substitutions must be recommended in advance by the faculty advisor, approved by the Department Head and the Teacher Education Department.

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 their 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	BIOL 106	Principles of Animal Biology
	4		3
BIOL 105L	Attributes of Living Systems Lab	BIOL 106L	Principles of Animal Biology
	1		2
ENGL 111	English Composition	ENGL 112	English Composition
	3		3
CHEM 121	Principles of Chemistry	CHEM 122	Principles of Organic Chemistry
	4		4
CHEM 121L	Principles of Chemistry Lab	CHEM 122L	Principles of Organic Chemistry Lab
	1		1
MATH 113	College Algebra	STAT 200	Probability and Statistics
	<u>4</u>		3
	17	KINA/HPWE	Activity
			<u>1</u>
			17

SOPHOMORE YEAR

Fall Semester	Hours	Spring Semester	Hours
BIOL 107	Principles of Plant Biology	GEOL 111	Principles of Physical Geology AND
	3		3
BIOL 107L	Principles of Plant Biology Lab	GEOL 111L	Principles of Physical Geology Lab
	2		1
PHYS 111	General Physics	OR	
	4	GEOL 113	Field-Based Intro. To Physical Geol. AND
PHYS 111L	General Physics Lab		3
	1	GEOL 113L	Field-Based Intro. To Physical Geol Lab
PSYC 233	Human Growth and Development		1
	3	PHYS 112	General Physics
KINE/HPWA 100	Health and Wellness		4
	1	PHYS 112L	General Physics Lab
General Education Humanities	<u>3</u>		1
	17	General Education Natural Science	3
		General Education Humanities	3
		KINA/HPWE	Activity
			<u>1</u>
			16

JUNIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
EDUC 211	Foundations of Education	EDUC 342	Pedagogy & Assessment: Secondary/K-12
	2		3
GEOL 112	Principles of Historical Geology	EDUC 343	Teaching to Diversity
	3		3
GEOL 112L	Principles of Historical Geology Lab	BIOL 386	Intro to Science Education
	1		3
SPCH 102	Speechmaking	Electives	Upper Division Biology courses
	3		3
Electives	Upper Division Biology courses	General Education Social and Behavioral Science	<u>3</u>
	4		15
General Education Humanities/Soc. & Behav. Sci	<u>3</u>		
	16		

SENIOR YEAR

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

PRAXIS Exam (Science) completion