



2007 – 08 PETITION/PROGRAM SHEET

Degree: Bachelor of Science

Major: Biological Sciences

Concentration: Biology

www.mesastate.edu/schools/snsn/biology/program.htm

About This Major . . .

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. Graduates of our program pursue careers in the medical field, pest control, plant pathology, wildlife biology, cell biology and biotechnology, among just a few of the career options opened with a Biology degree from Mesa State College.

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 _____ 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 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).
- 2.0 cumulative GPA or higher in all MSC coursework
- A 2.5 GPA is required in the major courses. A "C" or higher is required in all major courses.
- Excess KINA courses beyond the two required and 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.

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 "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	_____	_____

(ENGL 129, Honors English, may be substituted for ENGL 111 & ENGL 112.)

Math: (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	_____	_____	_____	_____
------	-------	-------	-------	-------

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

Fine Arts (3 semester hours)

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

OTHER LOWER DIVISION REQUIREMENTS

Kinesiology (3 semester hours)

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

Applied Studies (3 semester hours)

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

BACHELOR OF SCIENCE DEGREE DISTINCTION

REQUIREMENTS (6 semester hours) Must receive a grade of "C" or better.

STAT 200	Probability and Statistics	3	_____	_____
----------	----------------------------	---	-------	-------

OR

*MATH 146	Calculus for Biological Sciences	5	_____	_____
-----------	----------------------------------	---	-------	-------

*If MATH 146 is taken, 2 credits apply to elective credit

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

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

BIOLOGICAL SCIENCES MAJOR REQUIREMENTS

(62 semester hours) A 2.5 GPA is required in the major courses. A "C" or higher is required in all major courses.

Required Core Courses (22 semester hours)

BIOL 105	Attributes of Living Systems	4	_____	_____
BIOL 105L	Attributes of Living Systems Lab	1	_____	_____
BIOL 106	Principles of Animal Biology	3	_____	_____
BIOL 106L	Principles of Animal Biology Lab	2	_____	_____
BIOL 107	Principles of Plant Biology	3	_____	_____
BIOL 107L	Principles of Plant Biology Lab	2	_____	_____
BIOL 301	Principles of Genetics	3	_____	_____
BIOL 301L	Principles of Genetics Lab	1	_____	_____
BIOL 483	Senior Thesis	2	_____	_____

Required Related Study Area (20 semester hours): (Should be

completed by the end of the sophomore year.)

CHEM 131*	General Chemistry	4	_____	_____
CHEM 131L*	General Chemistry Lab	1	_____	_____
CHEM 132*	General Chemistry	4	_____	_____
CHEM 132L*	General Chemistry Lab	1	_____	_____
PHYS 111*	General Physics	4	_____	_____
PHYS 111L*	General Physics Lab	1	_____	_____
PHYS 112*	General Physics	4	_____	_____
PHYS 112L*	General Physics Lab	1	_____	_____

* A higher level subject may be taken in the same category with advisor approval.

Course No Title Sem.hrs Grade Term/Trns

Additional Biology Courses (20 semester hours) At least 50% must be at the 300 level or above. Courses must be selected from three of the following four areas: (1) Cell, Developmental, and Molecular; (2) Organismal; (3) Anatomical and Physiological; (4) Ecology, Evolution, and Systematics.

Category 1: BIOL 302/302L, BIOL 310/310L, BIOL 343/343L, BIOL 425, BIOL 442, CHEM 315/315L

Category 2: BIOL 221/221L, BIOL 335/335L, BIOL 250/250L, BIOL 331/331L, BIOL 350/350L, BIOL 411/411L, BIOL 412/412L, BIOL 413/413L, BIOL 416/416L, BIOL 431/431L, BIOL 450/450L

Category 3: BIOL 209/209L, BIOL 210/210L, BIOL 241, BIOL 341/341L, BIOL 342/342L, BIOL 421/421L, BIOL 423/423L, BIOL 426, 426L, BIOL 441/441L

Course No Title Sem.hrs Grade Term/Trns

Category 4: BIOL 211/211L, BIOL 315, BIOL 320, 321/321L, BIOL 403, BIOL 405/405L, BIOL 406, BIOL 414/414L, BIOL 415, BIOL 418/418L

Electives (All college level courses appearing on your final transcript **not listed above** that will bring your total semester hours to 120 hours. Excludes KINA activity courses.) (16 semester hours additional upper division hours may be needed.)

*MATH 113	College Algebra	1		

Additional Biology Courses (20 semester hours minimum) At least 50% must be at the 300 level of above. Courses must be selected from three of the following four areas*:

Category 1: Cell, Developmental and Molecular

- BIOL 302/302L Cellular Biology and Laboratory
- BIOL 310/310L Developmental Biology and Lab
- BIOL 343/343L Immunology and Laboratory
- BIOL 425 Molecular Genetics
- BIOL 442 Pharmacology
- CHEM 315/315L Biochemistry and Laboratory

Category 2: Organismal

- BIOL 221/221L Plant Identification and Lab
- BIOL 250/250L Intro to Medical Microbiology and Lab
- BIOL 331/331L Insect Biology and Lab
- BIOL 335/335L Invertebrate Zoology and Lab
- BIOL 350/350L Microbiology and Lab
- BIOL 411/411L Mammalogy and Lab
- BIOL 412/412L Ornithology and Lab
- BIOL 413/413L Herpetology and Lab
- BIOL 416/416L Ethology and Lab
- BIOL 431/431L Animal Parasitology and lab
- BIOL 450/450L Mycology and Lab

Category 3: Anatomical and Physiological

- BIOL 209/209L Human Anatomy & Physiology I and Lab
- BIOL 210/210L Human Anatomy & Physiology II and Lab
- BIOL 241 Pathophysiology
- BIOL 341/341L General Physiology and Lab
- BIOL 342/342L Histology and Lab
- BIOL 421/421L Plant Physiology and Lab
- BIOL 423/423L Plant Anatomy and Lab
- BIOL 426/426L Intro to Electron Microscopy and Lab
- BIOL 441/441L Endocrinology and Lab

Category 4: Ecology, Evolution, and Systematics

- BIOL 211/211L Ecosystem Biology and Lab
- BIOL 315 Epidemiology
- BIOL 320 Plant Systematics
- BIOL 321/321L Taxonomy of Grasses and Lab
- BIOL 403 Evolution
- BIOL 405/405L Adv. Ecological Methods and Lab
- BIOL 406 Plant-Animal Interactions
- BIOL 414/414L Aquatic Biology and Lab
- BIOL 415 Tropical Ecosystems
- BIOL 418/418L Wild Life Management and Lab

* Category appropriate topics or elective courses may be used with Advisor approval.

SUGGESTED COURSE SEQUENCE FOR A MAJOR IN BIOLOGICAL SCIENCES – BIOLOGY

FRESHMAN YEAR

Fall Semester	Hours	Spring Semester	Hours
BIOL 105 Attributes of Living Systems	4	BIOL 106 Principles of Animal Biology	3
BIOL 105L Attributes of Living Systems Lab	1	BIOL 106L Principles of Animal Biology Lab	2
CHEM 131 General Chemistry	4	CHEM 132 General Chemistry	4
CHEM 131L General Chemistry Lab	1	CHEM 132L General Chemistry Lab	1
MATH 113 College Algebra	4	MATH 146 <u>or</u> Calculus for Biological Sciences (5) <u>or</u>	
KINE/HPWA 100 Health and Wellness	<u>1</u>	STAT 200 Probability and Statistics (3)	3-5
	15	KINA/HPWE Activities (2 courses)	<u>2</u>
			15-17

SOPHOMORE YEAR

Fall Semester	Hours	Spring Semester	Hours
BIOL 107 Principles of Plant Biology	3	BIOL XXX (selected from catalog listings)	4
BIOL 107L Principles of Plant Biology Lab	2	PHYS 112 General Physics (or higher)	4
PHYS 111 General Physics (or higher)	4	PHYS 112L General Physics Lab (or higher)	1
PHYS 111L General Physics Lab (or higher)	1	ENGL 112 English Composition	3
ENGL 111 English Composition	3	General Education Humanities	<u>3</u>
General Education Social/Behavioral Sciences	<u>3</u>		15
	16		

JUNIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
BIOL XXX (selected from catalog listings)	5	BIOL XXX (selected from catalog listings)	7
BIOL 301 Principles of Genetics	3	General Education Social/Behavioral Science or Humanities	3
BIOL 301L Principles of Genetics	1	General Education Social/Behavioral Science	3
General Education Fine Arts	3	Electives	<u>3</u>
General Education Humanities	<u>3</u>		16
	15		

SENIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
BIOL XXX (selected from catalog listings)	4	BIOL 483 Senior Thesis	2
General Education Natural Science	3	General Education Natural Science with Lab	4
General Education Applied Studies	3	Electives	<u>1</u>
Electives	<u>5-7</u>		13
	15-17		

Minimum GPA 2.0 (repeated classes will be counted only once)

General Education and General Education Electives	34
Kinesiology	3
Degree Distinction	7
Required and Suggested Core Courses	21
Required and Suggested Related Study Area Courses	20
Additional Biology Courses (50% upper division)	20
Additional Electives	<u>15</u>
MINIMUM TOTAL SUGGESTED HOURS.....	120

Minimum upper division hours required (300- & 400-level classes).....40

