



Access & Excellence

**MONTANA STATE UNIVERSITY-BILLINGS
 BACHELOR OF SCIENCE MAJOR IN BIOLOGY
 ORGANISMAL BIOLOGY, ECOLOGY, AND
 ENVIRONMENTAL SCIENCES TRACK
 GENERAL BULLETIN 2003-2005**

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Name _____

Student ID # _____

GENERAL EDUCATION REQUIREMENTS – SEE PAGE 4 FOR SPECIFIC COURSES

General Education Category	Course #	Credits	Grade	Semester	Equivalent
Category I: Writing (6 cr.)	ENGL 150				
Category II: Oral Skills (3 cr.)					
Category III: Mathematics (3 cr.)					
Category IV: Natural Sciences (7 cr.) (1 life science/1 physical science/1 lab)					
Category V: Social Sciences (6 cr.) (2 courses from separate prefixes)					
Category VI: History (3 cr.)					
Category VII: Cultural Diversity (3 cr.)					
Category VIII: Fine Arts (3 cr.)					
Category IX: Integrated Humanities (3 cr.)					

Students should consult with their advisors to determine if specific courses are necessary in order to satisfy the General Education requirements within this program.

Certain courses in this program have prerequisites; students should check the course descriptions for required prerequisites.

CATEGORY I: WRITING			6
<i>ENGL</i>	<i>150</i>	<i>College Composition</i>	<i>3</i>
ENGL	210	Technical Writing	3
ENGL	226	Research Writing	3
ENGL	301	Business Communications	3
CTCM	202	Business Communication	3
CTCM	203	Technical Communication	3

CATEGORY II: ORAL SKILLS			3
COMT	101	Fundamentals of Communication	3
COMT	110	Interpersonal Communication	3
COMT	130	Introduction to Public Speaking	3
FREN	202	Intermediate French II	3
GERM	202	Intermediate German II	3
SPAN	202	Intermediate Spanish II	3
CTCM	109	Human Relations	3
CTCM	130	Introduction to Public Speaking	3

CATEGORY III: MATHEMATICS			3
FIN 201, 202, 203		Personal Financial Planning	3
MATH	106	College Algebra	3
MATH	107	Precalculus	5
MATH	112	Calculus I	4
MATH	121	Finite Mathematics	4
MATH	141	Contemporary Mathematics	3
MATH	161	Mathematics for Health Sciences	4
STAT	141	Introduction to Statistics	3
STAT	241	Statistical Methods	4
CTCM	122	College Mathematics for Technology	3

CATEGORY IV: NATURAL SCIENCE **7**

Students are required to take one course from each subcategory and at least one corresponding lab or SCIN 101, 102 & 103

Subcategory A – Life Sciences

BIOL	101	Survey of Biology	3
BIOL	115	Survey of Biology Lab	1
BIOL	178	Principles of Biology	3
BIOL	188	Principles of Biology Lab	1

Subcategory B – Physical Sciences

CHEM	104	Fund of General & Organic Chemistry	3
CHEM	105	Fund of General & Organic Chem Lab	1
CHEM	115	General Chemistry I	3
CHEM	118	General Chemistry I Lab	1
EASC	100	Lithosphere and Hydrosphere	3
EASC	101	Lithosphere and Hydrosphere Lab	1
EASC	120	Historical Geology & Paleontology	3
EASC	121	Historical Geology & Paleontology Lab	1
GEOG	100	Physical Geography Lab	1
GEOG	101	Physical Geography	3
PHYS	101	Earth, Air, Fire and Water	3
PHYS	102	Earth, Air, Fire and Water Lab	1
PHYS	110	College Physics I	3
PHYS	111	College Physics I Lab	1
PHYS	201	Introduction to Astronomy	3
PHYS	203	Introduction to Astronomy Lab	1
SCIN 101, 102, 103		Integrated Science I, II, III	3, 1, 3

CATEGORY V: SOCIAL SCIENCE **6**

Two courses from separate prefixes

BUS	101	Introduction to Business	3
ECON	200	Principles of Microeconomics	3
ECON	201	Principles of Macroeconomics	3
EDF	100	Educ Persons for a Democratic Society	3
POLS	101	Introduction to Government	3
POLS	212	United States Government	3
PSYC	101	General Psychology	3
SOCL	101	Introduction to Sociology	3
SOCL	212	Physical Anthropology & Archeology	3
SOCL	221	Social Problems	3

CATEGORY VI: HISTORY			3
HIST	104	History of World Civilization to 1500	3
HIST	105	History of World Civilization Since 1500	3
HIST	106	Honors: History of Western Civ to 1648	3
HIST	107	Honors: History of Western Civ since 1648	3
HIST	109	Current World Problems	3
HIST	204	United States History to 1877	3
HIST	205	United States History Since 1877	3
POLS	221	International Relations	3

CATEGORY VII: CULTURAL DIVERSITY **3**

ART	131	Global Visual Culture	3
A&SC/SOCL 250		Women, Culture and Society	3
GEOG	102	World Geography	3
GEOG	120	Environment and Culture	3
HIST	351	History of Islamic Civilization	3
HIST	353	The Middle East in the Twentieth Century	3
MUSC	150	Musics of the World	3
NAMS	181	Introduction to Native American Studies	3
NAMS	211	Social Issues of the Native American	3
PHIL	105	The Religious Quest	3
PHIL	233	Phil & Religions of India	3
PHIL	234	Phil & Religions of China, Tibet & Japan	3
SOCL	211	Cultural Anthropology	3
SPAN	150	The Hispanic Tradition	3

CATEGORY VIII: FINE ARTS **3**

ART	110	Art Studio Essentials for Non-Art Majors	3
ART	142	Introduction to Pottery	3
ART	161	Introduction to Drawing	3
COMT	150	Introduction to Theater	3
COMT	155	Global Cinema	3
COMT	250	Introduction to Acting	3
ENGL	160	Reading and Responding to Literature	3
ENGL	204	Fundamentals of Creative Writing	3
ENGL	280	Fiction into Film	3
MUSC	100	Music Appreciation	3
MUSC 160/360		Symphonic Band	1
MUSC 162/362		Concert Choir	1
MUSC 168/368		Jazz Ensemble	1
PHIL	303	Classical Mythology	3
CTDR	248	CAD Presentations	3

CATEGORY IX: INTEGRATED HUMANITIES **3**

ART	132	Art History Survey	3
ENGL	260	World Foundations of Literature	3
HON	181	The Ancient and Medieval Worlds	3
HON	182	The Renaissance and Modern Worlds	3
MUSC	340	Music History to 1750	3
MUSC	341	Music History 1750 to the Present	3
PHIL	107	Philosophical Inquiry	3
PHIL	115	Ethics	3
PHIL	117	Philosophies of Life	3
PHIL/ENGL 240		The Bible as Literature	3
PHIL	250	Christianity	3
PHIL	301	Death, Dying, and Medical Ethics	3
PHIL	311	Environmental Ethics	3
PHIL	314	Business Ethics	3

Course			Credits	Grade	Semester	Equivalent
Biology Requirements						
**BIOL	178	Principles of Biology	3			
**BIOL	188	Principles of Biology Lab	1			
BIOL	179	Biodiversity	3			
BIOL	189	Biodiversity Lab	1			
BIOL	263	Introduction to Cell Biology	3			
BIOL	273	Introduction to Cell Biology Lab	1			
BIOL	301	Plant and Animal Development	3			
BIOL	302	Plant and Animal Development Lab	1			
BIOL	315	Plant Systematics	2			
BIOL	325	Plant Systematics Lab	2			
BIOL	353	Genetics	3			
BIOL	354	Genetics Lab	1			
BIOL	355	Ecology and Evolution	3			
BIOL	356	Ecology and Evolution Lab	1			
BIOL	495	Biological Research	2			
BIOL	498	Capstone Seminar	1			

Select one of the following lecture/lab sequences:

+BIOL	424/434	Animal Physiology/Lab	3/1			
		OR				
+BIOL	465/475	Plant Physiology/Lab	3/1			

Biology Electives (7 cr.) selected in consultation with advisor from the following:

BIOL	309/319	Ornithology/Lab	3/1			
BIOL	340/350	General Microbiology/Lab	3/1			
BIOL	363/373	Molecular Biology/Lab	3/1			
+BIOL	424/434	Animal Physiology/Lab	3/1			
BIOL	456/457	Advanced Ecology/Lab	3/1			
BIOL	458/460	Vertebrate Zoology/Lab	3/1			
BIOL	461/471	Plant Morphology/Lab	3/1			
BIOL	464/474	Plant Anatomy/Lab	3/1			
+BIOL	465/475	Plant Physiology/Lab	3/1			

+Biol 424/435 or Biol 465/475 may be taken as an elective if not selected as a requirement listed above.

Chemistry Requirements

**CHEM	115	General Chemistry I	3			
CHEM	118	General Chemistry I Lab	1			
CHEM	116	General Chemistry II	3			
CHEM	119	General Chemistry II Lab	1			
CHEM	220	Principles of Organic Chemistry	3			
CHEM	221	Principles of Organic Chemistry Lab	1			
CHEM/ BIOL	361	Biochemistry	3			
CHEM/ BIOL	371	Biochemistry Lab	1			

Students wishing to obtain a minor in Chemistry may take CHEM 330/331, 334/335 (instead of Chem 220/221) and 320/325.

Course			Credits	Grade	Semester	Equivalent
Mathematics or Statistics Requirement (choose two of the following)						
**MATH	112	Calculus I	4			
MATH	113	Calculus II	4			
**STAT	241	Statistical Methods	4			
STAT	242	Statistical Methods II	4			

**May satisfy General Education requirements.

Physics Requirement (choose one Physics sequence)						
PHYS	110/111	College Physics I/Lab	3/1			
PHYS	120/121	College Physics II/Lab	3/1			
PHYS	210/211	University Physics I/Lab	3/1			
PHYS	220/221	University Physics II/Lab	3/1			

Electives

BACHELOR OF SCIENCE DEGREE IN BIOLOGY – ORGANISMAL BIOLOGY, ECOLOGY, AND ENVIRONMENTAL SCIENCES TRACK

Categories	Credits	Earned
General Education	37	_____
Biology Major	74	_____
Electives (variable)	V	_____
Total	120	_____

It is the student’s responsibility to know and meet the requirements for graduation. A minimum of 36 credits must be upper division classes (300 and above).

NOTES: