

Montana State University Billings Advising & Career Services Phone: 406-657-2240 Fax: 406-657-2302 advising@msubillings.edu www.msubillings.edu/advise/

# **ADVISING WORKSHEET**

**TRANSFER INSTITUTION(S):** 

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BACHELOR OF SCIENCE DEGREE MAJOR IN BIOLOGY General Bulletin 2015-2017

Student ID #\_\_\_\_\_

### GENERAL EDUCATION REQUIREMENTS – SEE ATTACHED PAGE FOR SPECIFIC COURSES

Name \_\_\_\_\_

<b>General Education Category</b>	Course #	Credits	Grade	Semester	Equivalent
Category I: Global Academic Skills (9 credits) A. Mathematics (3 credits) <i>M 171 or STAT 216 – Major requirement</i>					
B. English (3 credits)					
C. Communication & Information Literacy (3 credits)					
Category II: Natural Sciences (7 credits) 2 lectures (6 credits) & 1 lab (1 credit) (1 life science & 1 physical science & 1 lab)					
BIOB 160/161 & CHMY 141 – Major requirements					
<b>Category III: Social Sciences and History</b> (6 credits) A. Social Science (3 credits)					
B. History (3 credits)					
Category IV: Cultural Diversity (3 credits)					
Category V: Arts & Humanities (6 credits) A. Fine Arts (3 credits)					
B. Humanities (3 credits)					

A minimum grade of "C-"is required in all General Education courses.

Note: Certain degrees may require a minimum grade of "C" in General Education courses.

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 in the General Bulletin for required prerequisites.

**Reviewed:** 

## **GENERAL EDUCATION REQUIREMENTS**

CATEGO	RY I: (	GLOBAL ACADEMIC SKILLS 9	credits
Students	are req	uired to take one course from each subca	tegory
Subcateg	gory A	- Mathematics 3	credits
М	105	Contemporary Mathematics	3
М	114	Extended Technical Mathematics	3
Μ	121	College Algebra	3
Μ	122	College Trigonometry	3
М	131	Mathematics for Elementary Teachers	II 3
Μ	143	Finite Mathematics	4
Μ	161	Survey of Calculus	3
M	171	Calculus I	4
STAT	141	Introduction to Statistical Concepts	3
STAT	216	Introduction to Statistics	4
Subcateg	gory B	- English 3	credits
WRIT	101	College Writing I	3
WRIT	121	Introduction to Technical Writing	3
WRIT	122	Introduction to Business Writing	3 3
WRIT	201	College Writing II	3
WRIT	220	Business & Professional Writing	3
WRIT	221	Intermediate Technical Writing	3
Subcateg	gory C-	· Communication & Information Literacy	3 credits
BMIS	150	Computer Literacy	3
COMX	111	Introduction to Public Speaking	3
COMX	115	Introduction to Interpersonal Communi	cation 3
LSCI	125	Research in the Information Age	3

CATEGORY II: NATURAL SCIENCES 6 cr. lecture & 1 cr. lab

Students are required to take one course from each subcategory and at least one corresponding lab <u>or</u> Integrated Sciences

ai least one corresponding lab <u>or</u> integrated sciences					
Subcate	gory A	– Life Sciences 3	-4 credits		
BIOB	101	Discover Biology	3		
BIOB	102	Discover Biology Lab	1		
BIOB	160	Principles of Living Systems	3		
BIOB	161	Principles of Living Systems Lab	1		
Subcate	gory B	– Physical Sciences 3-	-4 credits		
ASTR	110	Introduction to Astronomy	3		
ASTR	111	Introduction to Astronomy Lab	1		
CHMY	121	Introduction to General Chemistry	3		
CHMY	122	Introduction to General Chemistry La	b 1		
CHMY	141	College Chemistry I	3		
CHMY	142	College Chemistry Laboratory I	1		
GEO	101	Introduction to Physical Geology	3		
GEO	102	Introduction to Physical Geology Lab	oratory 1		
GPHY	112	Introduction to Physical Geography L	ab 1		
GPHY	111	Introduction to Physical Geography	3		
PHSX	103	Our Physical World	3		
PHSX	104	Our Physical World Lab	1		
PHSX	205	College Physics I	3		
PHSX	206	College Physics I Lab	1		
PHSX	105	Fundamentals of Physical Science	3		
PHSX	106	Fundamentals of Physical Science La	b 1		
Integrated Sciences					
SCIN 101	1, 102, 10	3, 104 Integrated Sciences	3, 1, 3, 1		

CATEGO	RY III:	SOCIAL SCIENCES AND HISTORY	6 credits
Students	are req	uired to take one course from each subca	tegory
Subcateg	gory A	– Social Sciences 3	credits
ANTY	217	Physical Anthropology & Archeology	3
BGEN	105	Introduction to Business	3
COMX	106	Communicating in a Dynamic Workpla	ace 3
ECNS	201	Principles of Microeconomics	3
ECNS	202	Principles of Macroeconomics	3
EDU	105	Education and Democracy	3
GPHY	141	Geography of World Regions	3
HTH	110	Personal Health and Wellness	3
PSCI	210	Introduction to American Government	3
PSCI	220	Introduction to Comparative Governme	ent 3
PSYX	100	Introduction to Psychology	3
PSYX	231	Human Relations	3
SOCI	101	Introduction to Sociology	3
SOCI	201	Social Problems	3

Subcateg	ory B	- History	3 credits
HSTA	101	American History I	3
HSTA	102	American History II	3
HSTR	101	Western Civilization I	3
HSTR	102	Western Civilization II	3
HSTR	103	Honors Western Civilization I	3
HSTR	104	Honors Western Civilization II	3
PSCI	230	Introduction to International Relations	3

CATEGO	CATEGORY IV: CULTURAL DIVERSITY 3 credits				
A&SC/WGS	s 274	Women, Culture, and Society	3		
ANTY	220	Culture and Society	3		
ARTH	160	Global Visual Culture	3		
COMX	212	Introduction to Intercultural Communication	1 3		
GPHY	121	Human Geography	3		
HTH	270	Global Health Issues	3		
LIT	230	World Literature Survey	3		
MUSI	207	World Music	3		
NASX	105	Introduction to Native American Studies	3		
NASX	205	Native Americans in Contemporary Society	3		
PHL	271	Indian Philosophies and Religions	3		
PHL	272	Chinese Philosophies and Religions	3		
REHA	201	Introduction to Diversity in Counseling	3		
RLST	170	The Religious Quest	3		
SPNS	150	The Hispanic Tradition	3		

#### CATEGORY V: ARTS & HUMANITIES

CATEGO	DRY V:	ARTS & HUMANITIES	6 credits
Students	are req	uired to take one course from each subc	category
Subcate	gory A	– Fine Arts	3 credits
ARTZ	101	Art Fundamentals	3
ARTZ	105	Visual Language-Drawing	3
ARTZ	131	Ceramics for Non-majors	3
CRWR	240	Intro Creative Writing Workshop	3
FILM	160	Introduction to World Cinema	3
LIT	270	Film & Literature	3
MART	260	Computer Presentation and Animation	n 3
MUSI	101	Enjoyment of Music	3
MUSI	114	Band: MSUB Symphonic	1
MUSI	131	Jazz Ensemble I: MSUB	1
MUSI	147	Choral Ensemble: University Chorus	1
PHOT	154	Exploring Digital Photography	3
THTR	101	Introduction to Theatre	3
THTR	120	Introduction to Acting I	3
Subcate	gory B	- Humanities	3 credits
ARTH	150	Introduction to Art History	3
HONR	111	Perspectives and Understanding	3
LIT	110	Introduction to Literature	3
LIT	240	The Bible as Literature	3
PHL	110	Introduction to Ethics	3
PHL	111	Philosophies of Life	3
Total			31

		Course	Credits	Grade	Semester	Equivalent
Diala ar D		A minimum grade of C- or better is requi	red in all m	ajor cours	sework	
<b>Biology R</b> *BIOB	lequirem 160	Principles of Living Systems	3	1	l l	
* BIOB	161	Principles of Living Systems Lab	1			
BIOB	170	Principles of Biological Diversity	3			
BIOB	170	Principles of Biological Diversity Principles of Biological Diversity Lab	1			
BIOB	260	Cellular and Molecular Biology	3			
BIOB	261					
		Cellular and Molecular Biology Lab	1			
BIOM	360	General Microbiology	3			
BIOM	361	General Microbiology Lab	1			
BIOE	370	General Ecology	3			
BIOE	371	General Ecology Lab	1			
BIOB	375	General Genetics	3			
BIOB	376	General Genetics Lab	1			
BIOB	425	Advanced Cell and Molecular Biology	3			
BIOB	426	Advanced Cell and Molecular Biology Lab	1			
BIOB	490	Undergraduate Research	2			
BIOB	499	Senior Thesis/Capstone	1			
Upper Di	vision Bi	ology Electives (17 credits – selected in consultat	tion with a	dvisor)		
				+		
				+		
		Biology Total	48			
Chemistr	y Requir		40			
*CHMY	141	College Chemistry I	3			
*CHMY	142	College Chemistry Laboratory I	1			
CHMY	143	College Chemistry II	3	1		
CHMY	144	College Chemistry Laboratory II	1	1		
CHMY	321	Organic Chemistry I	3			
<u> </u>				+		

Mathama	4. og og 64	Chemistry Total atistics Requirement (Choose two of the follo	20	
BCH	381	Biochemistry Lab	1	
BCH	380	Biochemistry	3	
CHMY	324	Organic Chemistry Laboratory II	1	
CHMY	323	Organic Chemistry II	3	
CHMY	322	Organic Chemistry Laboratory I	1	
CHMY	321	Organic Chemistry I	3	
CHMY	144	College Chemistry Laboratory II	1	
CHMY	143	College Chemistry II	3	
*CHMY	142	College Chemistry Laboratory I	1	
*CHMY	141	College Chemistry I	3	

#### \*M 171 Calculus I 4 172 Calculus II 4 М 223/ Research Design and Analysis I Research Design and Analysis I Lab PSYX 3 224 1 \*STAT 216 Introduction to Statistics 4 8

Math or Statistics Total

\*May satisfy General Education requirements.

Physics <b>F</b>	Requireme	ent (choose one Physics sequence)		
*PHSX	205/	College Physics I	3	
	206	College Physics I Lab	1	
PHSX	207/	College Physics II	3	
	208	College Physics II Lab	1	
or				
PHSX	220/	Physics I	3	
	221	Physics I Lab	1	
PHSX	232/	Physics II and Thermodynamics	3	
	233	Physics II and Thermodynamics Lab	1	
		Physics Total	8	

#### **Unrestricted Electives**

	cted Elect		-	1	i	1
CHMY	311	Analytical Chemistry – Quantitative Analysis	3			
		(Recommended but not required)				
CHMY	312	Analytical Chemistry Laboratory – Quantitative	1			
		Analysis				
		(Recommended but not required)				
			-			
			-	-		

BACHELOR OF SCIENCE DEGREE IN BIOLOGY								
Categories	Credits	Earned	Remaining					
General Education Requirements	31							
<b>Biology Requirements</b>	**44							
Chemistry Requirements	***17							
Math or Statistics Requirement	***5							
Physics Requirements	8							
Unrestricted Electives (variable)	V							
Total	120							

# **\*\*4 credits that also satisfy General Education requirements are not included in the total number of credits. \*\*\*3 credits that also satisfy General Education requirements are not included in the total number of credits.** The total number of elective credits required for the degree will be determined by the number of courses a student elects to take which fulfill both the General Education requirements and the major requirements. Electives should be chosen in consultation with an academic advisor.

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).