



**ADVISING WORKSHEET**  
**BACHELOR OF SCIENCE DEGREE**  
**MAJOR IN BIOLOGY**  
**General Bulletin 2017-2018**

TRANSFER INSTITUTION(S):  
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Name \_\_\_\_\_

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

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

General Education Category	Course #	Credits	Grade	Semester	Equivalent
<b>Category I: Global Academic Skills</b> (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)					
<b>Category II: Natural Sciences</b> (7 credits) 2 lectures (6 credits) & 1 lab (1 credit) (1 life science & 1 physical science & 1 lab)  <i>BIOB 160/161 &amp; CHMY 141 – Major requirements</i>					
<b>Category III: Social Sciences and History</b> (6 credits) A. Social Science (3 credits) B. History (3 credits)					
<b>Category IV: Cultural Diversity</b> (3 credits)					
<b>Category V: Arts &amp; Humanities</b> (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:**

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# GENERAL EDUCATION REQUIREMENTS

## CATEGORY I: GLOBAL ACADEMIC SKILLS 9 credits

*Students are required to take one course from each subcategory*

### Subcategory A - Mathematics 3 credits

M	105	Contemporary Mathematics	3
M	114	Extended Technical Mathematics	3
M	121	College Algebra	3
M	122	College Trigonometry	3
M	131	Mathematics for Elementary Teachers II	3
M	143	Finite Mathematics	4
M	161	Survey of Calculus	3
<b>M</b>	<b>171</b>	<b>Calculus I</b>	<b>4</b>
STAT	141	Introduction to Statistical Concepts	3
<b>STAT</b>	<b>216</b>	<b>Introduction to Statistics</b>	<b>4</b>

### Subcategory B - English 3 credits

WRIT	101	College Writing I	3
WRIT	121	Introduction to Technical Writing	3
WRIT	122	Introduction to Business Writing	3
WRIT	201	College Writing II	3
WRIT	220	Business & Professional Writing	3
WRIT	221	Intermediate Technical Writing	3

### Subcategory C - Communication & Information Literacy 3 credits

BMIS	150	Computer Literacy	3
COMX	111	Introduction to Public Speaking	3
COMX	115	Introduction to Interpersonal Communication	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 or Integrated Sciences*

### Subcategory A - Life Sciences 3-4 credits

BIOB	101	Discover Biology	3
BIOB	102	Discover Biology Lab	1
BIOB	121	Fundamentals of Biology for Allied Health	3
BIOB	122	Fund of Biology: Evolution, Ecology, and Biodiversity	3
BIOB	123	Fund of Biology: The Nature of Nutrition	3
<b>BIOB</b>	<b>160</b>	<b>Principles of Living Systems</b>	<b>3</b>
<b>BIOB</b>	<b>161</b>	<b>Principles of Living Systems Lab</b>	<b>1</b>

### Subcategory 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 Lab	1
<b>CHMY</b>	<b>141</b>	<b>College Chemistry I</b>	<b>3</b>
<b>CHMY</b>	<b>142</b>	<b>College Chemistry Laboratory I</b>	<b>1</b>
GEO	101	Introduction to Physical Geology	3
GEO	102	Introduction to Physical Geology Laboratory	1
GPHY	112	Introduction to Physical Geography Lab	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 Lab	1

### Integrated Sciences

SCIN	101, 102, 103, 104	Integrated Sciences	3, 1, 3, 1
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## CATEGORY III: SOCIAL SCIENCES AND HISTORY 6 CREDITS

*Students are required to take one course from each subcategory*

### Subcategory A - Social Sciences 3 credits

ANTY	217	Physical Anthropology & Archeology	3
BGEN	105	Introduction to Business	3
COMX	106	Communicating in a Dynamic Workplace	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 Government	3
PSYX	100	Introduction to Psychology	3
PSYX	231	Human Relations	3
SOCI	101	Introduction to Sociology	3
SOCI	201	Social Problems	3

### Subcategory 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

## CATEGORY IV: CULTURAL DIVERSITY 3 credits

A&SC/WGSS	274	Women, Culture, and Society	3
ANTY	220	Culture and Society	3
ARTH	160	Global Visual Culture	3
COMX	212	Introduction to Intercultural Communication	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 6 credits

*Students are required to take one course from each subcategory*

### Subcategory 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	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

### Subcategory 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
PHL	254	People and Politics	3

Course		Credits	Grade	Semester	Equivalent
<i>A minimum grade of C- or better is required in all major coursework</i>					
<b>Biology Requirements</b>					
*BIOB	160	Principles of Living Systems	3		
*BIOB	161	Principles of Living Systems Lab	1		
BIOB	170	Principles of Biological Diversity	3		
BIOB	171	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		
<b>Upper Division Biology Electives (17 credits – selected in consultation with advisor)</b>					
<b>Biology Total</b>			<b>48</b>		
<b>Chemistry Requirements</b>					
*CHMY	141	College Chemistry I	3		
*CHMY	142	College Chemistry Laboratory I	1		
CHMY	143	College Chemistry II	3		
CHMY	144	College Chemistry Laboratory II	1		
CHMY	321	Organic Chemistry I	3		
CHMY	322	Organic Chemistry Laboratory I	1		
CHMY	323	Organic Chemistry II	3		
CHMY	324	Organic Chemistry Laboratory II	1		
BCH	380	Biochemistry	3		
BCH	381	Biochemistry Lab	1		
<b>Chemistry Total</b>			<b>20</b>		
<b>Mathematics or Statistics Requirement (Choose two of the following)</b>					
*M	171	Calculus I	4		
M	172	Calculus II	4		
PSYX	223/	Research Design and Analysis I	3		
	224	Research Design and Analysis I Lab	1		
*STAT	216	Introduction to Statistics	4		
<b>Math or Statistics Total</b>			<b>8</b>		

\*May satisfy General Education requirements.

**Physics Requirement** (choose **one** Physics **sequence**)

*PHSX	205/ 206	College Physics I College Physics I Lab	3 1			
PHSX	207/ 208	College Physics II College Physics II Lab	3 1			
or						
PHSX	220/ 221	Physics I Physics I Lab	3 1			
PHSX	232/ 233	Physics II and Thermodynamics Physics II and Thermodynamics Lab	3 1			
<b>Physics Total</b>			<b>8</b>			

**Unrestricted Electives**

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

**BACHELOR OF SCIENCE DEGREE IN BIOLOGY**

Categories	Credits	Earned	Remaining
General Education Requirements	31	_____	_____
Biology Requirements	**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).**