ADVISING WORKSHEET

BACHELOR OF SCIENCE DEGREE MAJOR IN BIOLOGY
ENVIRONMENTAL SCIENCES OPTION
General Bulletin 2013-2015

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
Category I: Global Academic Skills (9 credits) A. Mathematics (3 credits) *M 171 & STAT 216 – Major requirements*					
B. English (3 credits)	WRIT 101				
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 – Major requirement					
CHMY 141/142 & GEO 101/102 – Major requirements					
Category III: Social Sciences and History (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:

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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	***171***	***Calculus I***	***4***
STAT	141	Introduction to Statistical Concepts	3
STAT	***216***	***Introduction to Statistics***	***4***
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 SCIN 101, 102, 103 & 104			
Subcategory 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***
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
CHMY	***141***	***College Chemistry I***	***3***
CHMY	***142***	***College Chemistry LabI***	***1***
GEO	***101***	***Introduction to Physical Geology***	***3***
GEO	***102***	***Introduction to Physical Geology Lab***	***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 Phys Sci	3
PHSX	106	Fundamentals of Phys Sci Lab	1
Subcategories A and B – Integrated Sciences			**7 credits**
SCIN 101, 102, 103 & 104 Integrated Sciences			3, ½ , 3, ½

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	Philosophy & Religion of India	3
PHL	272	Philosophy & Religion of China/Tibet/Japan	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
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

Total **31**

Course	Credits	Grade	Semester	Equivalent

A minimum grade of C or better is required in all major coursework

Biology Requirements

*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	490 **or** 498	Undergraduate Research Internship/Cooperative Education	2			
BIOB	499	Senior Thesis/Capstone	1			

Biology Electives (choose 8 credits from the following)

BIOB	425	Advanced Cell and Molecular Biology	3			
BIOB	426	Advanced Cell and Molecular Biology Lab	1			
BIOE	483	Evolution and Ecology	3			
BIOE	484	Evolution and Ecology Lab	1			
BIOO	412	Animal Physiology	3			
BIOO	433	Plant Physiology	3			
BIOO	434	Plant Physiology Lab	1			
BIOO	435	Plant Systematics	2			
BIOO	436	Plant Systematics Lab	2			
		Biology Total	**35**			

Chemistry Requirements

*CHMY	141	College Chemistry I	3			
*CHMY	142	College Chemistry Lab I	1			
CHMY	143	College Chemistry II	3			
CHMY	144	College Chemistry Lab II	1			
CHMY	211	Elements of Organic Chemistry	3			
CHMY	212	Elements of Organic Chemistry Lab	1			

Chemistry Electives (choose 8 credits from the following)

BCH	380	Biochemistry	3			
BCH	381	Biochemistry Lab	1			
CHMY	311	Analytical Chemistry – Quantitative Analysis	3			
CHMY	312	Analytical Chemistry Lab – Quantitative Analysis	1			
CHMY	421	Advanced Instrument Analysis	3			
CHMY	422	Advanced Instrument Analysis Lab	1			
		Chemistry Total	**20**			

Physics Requirement (choose **one** Physics course with lab)

*PHSX	205	College Physics I	3			
*PHSX	206	College Physics I Lab	1			
OR						

PHSX	220	Physics I	3			
PHSX	221	Physics I Lab	1			
		Physics Total	**4**			

Earth Science and Geography Requirements
Geography

*GEO	101	Introduction to Physical Geology	3			
*GEO	102	Introduction to Physical Geology Lab	1			
GEO	205	Mineralogy	4			
GEO	309	Sedimentation and Stratigraphy	3			
GPHY	282	Mapping Techniques	3			
Earth Science (6 credits from the following)						
ERTH	303	Weather and Climate	4			
ERTH	401	Geologic Field Methods	4			
GPHY	380	Principles of GIS	3			
		Earth Science & Geography Total	**20**			

Mathematics and Statistics Requirement *May satisfy General Education requirements

*M	171	Calculus I	4			
*STAT	216	Introduction to Statistics	4			
		Math and Statistics Total	**8**			

Restricted Electives (6 credits selected with advisor approval)

Electives
Recommended courses:

ENST	385	Environmental Impact and Policy Analysis	3			
PHL	322	Philosophy and Environmental Ethics	3			

BACHELOR OF SCIENCE DEGREE IN BIOLOGY – ENVIRONMENTAL SCIENCES OPTION

Categories		Credits	Earned	Remaining
General Education		31	_____	_____
Biology Requirements		**31	_____	_____
Chemistry Requirements		***17	_____	_____
Physics Requirements		4	_____	_____
Earth Sci. & Geog. Requirements		20	_____	_____
Math / Statistics Requirements		***5	_____	_____
Restricted Electives		6	_____	_____
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).