ADVISING WORKSHEET

BACHELOR OF SCIENCE DEGREE
MAJOR IN BIOLOGY
GENERAL BULLETIN 2022-2023

TRANSFER INSTITUTION(S):

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_____
_____

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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 or STAT 216 – Major requirement*					
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					
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:

_____
_____
_____
_____

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	130	Mathematics for Elementary Teachers I	3
M	140	College Math for Healthcare	3
M	143	Finite Mathematics	4
M	161	Survey of Calculus	3
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

Subcategory C- Communication & Information Literacy — 3 credits

BMIS	150	Cyber Security and Electronic Communication	3
COMX	111	Introduction to Public Speaking	3
COMX	115	Introduction to Interpersonal Communication	3
COMX	210	Communication in Small Groups	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	123	Fund of Biology: The Nature of Nutrition	3
BIOB	***160***	***Principles of Living Systems***	***3***
BIOB	***161***	***Principles of Living Systems Lab***	***1***
SCIN	101	Integrated Science I	3
SCIN	102	Integrated Science I 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 Laboratory I***	***1***
GEO	101	Introduction to Physical Geology	3
GEO	102	Introduction to Physical Geology Laboratory	1
GPHY	262	Spatial Sciences Technology & Applications	3
GPHY	263	Spatial Sciences & Technology Lab	1
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
SCIN	103	Integrated Science II	3
SCIN	104	Integrated Science II Lab	

CATEGORY III: SOCIAL SCIENCES AND HISTORY — 6 CREDITS

Students are required to take one course from each subcategory

Subcategory A – Social Sciences — 3 credits

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
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
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	159	World History to 1500 CE	3
HSTR	160	Modern World History	3
PSCI	230	Introduction to International Relations	3

CATEGORY IV: CULTURAL DIVERSITY — *3 credits*

ANTY	220	Culture and Society	3
ARTH	160	Global Visual Culture	3
COMX	212	Intro 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
REHA	201	Introduction to Diversity in Counseling	3
RLST	170	The Religious Quest	3
SPNS	150	The Hispanic Tradition	3
WGSS	274	Women, Culture, and Society	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	106	Visual Language-2-D Foundations	3
ARTZ	108	Visual Language-3-D Foundations	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
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

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	213	Montana 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
		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			
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	487	Bioinformatics	3			
BIOB	490	Undergraduate Research	2			
BIOB	499	Senior Thesis/Capstone	1			
BIOE	370	General Ecology	3			
BIOE	371	General Ecology Lab	1			
BIOM	360	General Microbiology	3			
BIOM	361	General Microbiology Lab	1			
Upper Division Science Electives (**10 credits** – selected in consultation with advisor from the following rubrics: BCH, BIOB, BIOE, BIOH, BIOM, BIOO, CHMY, ERTH, GEO, GPHY, PHSX)						
		Biology Total	**44**			
Chemistry Requirements						
*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			
		Chemistry Total	**20**			
Mathematics/Statistics Requirement (Choose **two** of the following)						
*M or *M	161 171	Survey of Calculus Calculus I	3-4			
M	172	Calculus II	4			
PSYX	225/ 226	Research Design and Analysis I Research Design and Analysis I Lab	3 1			
*STAT	216	Introduction to Statistics	4			
		Math/Statistics Total	**7-8**			

*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			
		Physics Total	**8**			

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	**40	_____	_____
Chemistry Requirements	***17	_____	_____
Math or Statistics Requirement	***4-5	_____	_____
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).