

ADVISING WORKSHEET

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

1.	TRANSFER INSTITUTION(S):					
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Vame		
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) 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 are 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

	ORY I: G	GLOBAL ACADEMIC SKILLS	9 credits		-	•	credits
		uired to take one course from each subc	ategory	HSTA	101	American History I	3
Subcate	gory A -	· Mathematics	3 credits	HSTA	102	American History II	
Л	105	Contemporary Mathematics	3	HSTR HSTR	101	Western Civilization I	3
Л	114	Extended Technical Mathematics	3		102	Western Civilization II	3
1	121	College Algebra	3	HSTR	103	Honors Western Civilization I	3
1	122	College Trigonometry	3	HSTR	104 230	Honors Western Civilization II	3
1	131	Mathematics for Elementary Teachers		PSCI	230	Introduction to International Relations	3
1	143	Finite Mathematics	4				
1	161	Survey of Calculus	3				credits
1	171	Calculus I	4	A&SC/WG	ss 274	Women, Culture, and Society	3
TAT	141	Introduction to Statistical Concepts	3	ANTY	220	Culture and Society	3
TAT	216	Introduction to Statistics	4	ARTH	160	Global Visual Culture	3
ubcate	gory B -	English	3 credits	COMX	212	Introduction to Intercultural Communic	ation 3
VRIT	101	College Writing I	3	GPHY	121	Human Geography	3
VRIT	121	Introduction to Technical Writing	3	HTH	270	Global Health Issues	3
/RIT	122	Introduction to Business Writing	3	LIT	230	World Literature Survey	3
VRIT	201	College Writing II	3	MUSI	207	World Music	3
VRIT	220	Business & Professional Writing	3	NASX	105	Introduction to Native American Studie	es 3
/RIT	221	Intermediate Technical Writing	3	NASX	205	Native Americans in Contemporary Soc	
ubcate	gory C-	Communication & Information Literac	y 3 credits	PHL	271	Indian Philosophies and Religions	3
MIS	150	Computer Literacy	3	PHL	272	Chinese Philosophies and Religions	3
OMX	111	Introduction to Public Speaking	3	REHA	201	Introduction to Diversity in Counseling	
OMX	115	Introduction to Interpersonal Commun		RLST	170	The Religious Quest	3
SCI	125	Research in the Information Age	3	SPNS	150	The Hispanic Tradition	3
		E .					
ATEGO	ORY II:	NATURAL SCIENCES 6 cr. lecture &	1 cr. lab	CATEGO	DRY V:	ARTS & HUMANITIES 6	credits
		uired to take one course from each subc	ategory and			uired to take one course from each subca	
		esponding lab <u>or</u> Integrated Sciences	aregory and				credits
		· · ·	-4 credits	ARTZ	101	Art Fundamentals	3
IOB	101	Discover Biology	3	ARTZ	105	Visual Language-Drawing	3
IOB	102	Discover Biology Lab	1	ARTZ	131	Ceramics for Non-majors	3
IOB	160	Principles of Living Systems	3	CRWR	240	Intro Creative Writing Workshop	3
IOB IOB	161	Principles of Living Systems Lab	3 1	FILM	160	Introduction to World Cinema	3
			4 credits				3
incate STR	: gory в - 110		3	LIT	270	Film & Literature	
		Introduction to Astronomy		MART	260	Computer Presentation and Animation	3
STR	111	Introduction to Astronomy Lab	1	MUSI	101	Enjoyment of Music	3
HMY	121	Introduction to General Chemistry	3	MUSI	114	Band: MSUB Symphonic	1
HMY	122	Introduction to General Chemistry La		MUSI	131	Jazz Ensemble I: MSUB	1
HMY	141	College Chemistry I	3	MUSI	147	Choral Ensemble: University Chorus	1
HMY	142	College Chemistry Laboratory I	1	PHOT	154	Exploring Digital Photography	3
EO	101	Introduction to Physical Geology	3	THTR	101	Introduction to Theatre	3
EO	102	Introduction to Physical Geology Lab		THTR	120	Introduction to Acting I	3
PHY	111	Introduction to Physical Geography	3	Subcate	gory B	- Humanities 3	credits
PHY	112	Introduction to Physical Geography L	ab 1	ARTH	150	Introduction to Art History	3
HSX	103	Our Physical World	3	HONR	111	Perspectives and Understanding	3
HSX	104	Our Physical World Lab	1	LIT	110	Introduction to Literature	3
HSX	205	College Physics I	3	LIT	240	The Bible as Literature	3
HSX	206	College Physics I Lab	1	PHL	110	Introduction to Ethics	3
HSX	105	Fundamentals of Physical Science	3	PHL	111	Philosophies of Life	3
HSX	106	Fundamentals of Physical Science La				1 mosophies of Life	3
	ted Scier		- •	Total			31
0		3, 104 Integrated Sciences	3, 1, 3, 1	I otai			31
10	,, 10.	- ,	-, -, -, -				
ATECO	DRV III.	SOCIAL SCIENCES AND HISTORY	6 credits				
		ired to take one course from each subc					
uuenis		urea to take one course from each subc - Social Sciences	3 credits				
nheete	0 .	Physical Anthropology & Archeology					
		Introduction to Business	3				
NTY	217	minoduction to dustness					
NTY GEN	105	Communication in a Demant W 1		1			
NTY GEN OMX	105 106	Communicating in a Dynamic Workp					
NTY GEN OMX CNS	105 106 201	Principles of Microeconomics	3				
NTY GEN OMX CNS CNS	105 106 201 202	Principles of Microeconomics Principles of Macroeconomics	3 3				
NTY GEN OMX CNS CNS DU	105 106 201 202 105	Principles of Microeconomics Principles of Macroeconomics Education and Democracy	3 3 3				
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		Course	Credits	Grade	Semester	Equivalent
D: 1 - F		A minimum grade of C- or better is req	uired in all m	ajor cours	sework	
Biology F			1 2	1 1		
*BIOB	160	Principles of Living Systems	3			
* BIOB	161	Principles of Living Systems Lab	1			
BIOM	250	Microbiology for Health Sciences	3			
BIOM	251	Microbiology for Health Sciences Lab	1			
BIOB	260	Cellular and Molecular Biology	3			
BIOB	261	Cellular and Molecular Biology Lab	1			
BIOH	301	Human Anatomy and Physiology I	3			
BIOH	302	Human Anatomy and Physiology I Lab	1			
BIOH	311	Human Anatomy and Physiology II	3			
BIOH	312	Human Anatomy and Physiology II Lab	1			
BIOB	375	General Genetics	3			
BIOB	376	General Genetics Lab	1			
BIOM	400	Medical Microbiology	3			
BIOM	401	Medical Microbiology Lab	1			
BIOH	405	Hematology	3			
BIOH	406	Hematology Lab	1			
BIOB	410	Immunology	3			
BIOM	427	General Parasitology	2			
BIOB	499	Senior Thesis/Capstone	1			
Unrestrict	ted Biolog	y Elective	2			
		Biology Total	40	1 1	L	

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		
ВСН	380	Biochemistry	3		
ВСН	381	Biochemistry Lab	1		

Chemistry Total 16

NOTE: Students wishing to obtain a minor in Chemistry will need to take CHMY 311/312, CHMY 321/322 **and** CHMY 323/324 <u>instead of</u> CHMY 211/212.

Mathematics/Statistics Requirement (choose one)

*STAT	216	Introduction to Statistics	4		
STAT	217	Intermediate Statistical Concepts	4		

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

205	College Physics I	3			
206	College Physics I Lab	1			
220	Physics I	3			
221	Physics I Lab	1			
	206	206 College Physics I Lab 220 Physics I	206 College Physics I Lab 1 220 Physics I 3	206 College Physics I Lab 1 220 Physics I 3	206 College Physics I Lab 1 220 Physics I 3

Physics Total

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Upper Division Science electives (6 credits)

^CHMY	311	Analytical Chemistry – Quantitative Analysis	3		
^CHMY	312	Analytical Chemistry Laboratory – Quantitative Analysis	1		

(^Highly recommended but not required.) Total

6

Professional Medical Lab Training Core – 37 credits total

#BIOH	470	Summer Clinical Laboratory	V		
#BIOH	471	Professional Training I Fall Semester	V		
#BIOH	472	Professional Training II Spring Semester	V		

[#]These courses require an extra fee.

Courses in the professional training core (BIOH 470 Summer Clinical Laboratory, BIOH 471 Professional Training I Fall Semester and BIOH 472 Professional Training II Spring Semester) will be taught at an affiliated institution which include Montana State University Bozeman; University of North Dakota, Grand Forks; Sacred Heart School of Medical Technology, Spokane, Washington; or the Colorado Center for Medical Laboratory Science, Aurora (www.MedLabEd.org). The training and credits from all four programs will allow students to fulfill the requirements needed to take the national examinations to become certified clinical laboratory scientists or medical technologists. All students enrolled at each training program site will remain MUS students at their respective institutions.

BACHELOR OF SCIENCE DEGREE IN BIOLOGY - MEDICAL LABORATORY SCIENCE OPTION

Categories	Credits	Earned	Remaining
General Education	31		
Biology Requirements	**36		
Chemistry Requirements	***13		
Math/Statistics Requirements	***1		
Physics Requirements	4		
Upper Division Science Electives	6		
Professional Med Lab Training C	ore 37		
Total	128		

Students with a 2.5 GPA or higher can apply for a fifth year of professional training to earn a degree in Biology/Medical Laboratory Science Option from MSU Billings. Total credits for graduation are 128. Additional credits are required in this option because students take an additional three semesters of courses. These additional semesters are necessary because professional training programs approved by the National Accrediting Agency for Clinical Laboratory Science (NAACLS, www.naacls.org) are 12 months in duration. All students desiring to become a certified Clinical Laboratory Scientist must take a national certification examination upon completion of the year of professional training.

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).

^{*}May satisfy General Education requirements.

^{**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.