ADVISING WORKSHEET

BACHELOR OF SCIENCE DEGREE
MAJOR IN CHEMISTRY
GENERAL BULLETIN 2021-2022

TRANSFER INSTITUTION(S):

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_____

Montana State University Billings
Advising & Career Services
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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) *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				
	BIOB 161				
CHMY 141 is a major requirement					
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-" required in all General Education courses.
Note: Certain degrees may require a minimum grade of "C" in General Education courses.

Reviewed:

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_____
_____
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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	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
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	Cyber Security and Electronic Communication	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
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 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

Integrated Sciences

SCIN	101, 102, 103, 104	Integrated Sciences	3, 1, 3, 1

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
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	101	Western Civilization I	3
HSTR	102	Western Civilization II	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
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
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
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	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						
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	311	Analytical Chemistry – Quantitative Analysis	3			
CHMY	312	Analytical Chemistry Laboratory – Quantitative Analysis	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			
CHMY	361	Elements of Physical Chemistry Laboratory	3			
CHMY	362	Elements of Physical Chemistry Laboratory	1			
CHMY	401	Advanced Inorganic Chemistry	3			
CHMY	402	Advanced Inorganic Chemistry Laboratory	1			
CHMY	411	Advanced Organic Chemistry	3			
CHMY	412	Advanced Organic Chemistry Laboratory	1			
CHMY	421	Advanced Instrument Analysis	3			
CHMY	422	Advanced Instrumental Analysis Laboratory	2			
CHMY	490	Undergraduate Research	2			
CHMY	494	Seminar / Workshop	1			
CHMY	498	Internship / Cooperative Education	2			
BCH	380	Biochemistry	3			
BCH	381	Biochemistry Lab	1			
BCH	480	Advanced Biochemistry I	3			
BCH	481	Advanced Biochemistry I Lab	1			
		Chemistry Total	**50**			

Mathematics Requirement

*STAT	216	Introduction to Statistics **and**	4			
Choose one set:						
*M M **OR**	171 172	Calculus I **and** Calculus II	4 4			
M M	161	Survey of Calculus **and** Math Electives	3 5			
		Mathematics Total	**12**			

Physics Requirements

PHSX	220	Physics I	3			
PHSX	221	Physics I Lab	1			
PHSX	232	Physics II and Thermo	3			
PHSX	233	Physics II and Thermo Laboratory	1			
		Physics Total	**8**			

* May satisfy General Education requirements.

Course	Credits	Grade	Semester	Equivalent

Science and Math Electives (**23 credits** selected with advisor approval)

Electives

BACHELOR OF SCIENCE DEGREE IN CHEMISTRY

Categories	**Credits**	**Earned**	**Remaining**
General Education	31	_____	_____
Chemistry Requirements	**47	_____	_____
Mathematics Requirements	**12	_____	_____
Physics Requirements	8	_____	_____
Science and Math Electives	23	_____	_____
Electives (variable)	V	_____	_____
Total	120	_____	_____

**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 General Education requirements and 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).

NOTES: