

BIOLOGY (BS) MAJOR

NATURAL SCIENCES DEPARTMENT

BIOLOGY BACHELOR OF SCIENCE MAJOR CHECKLIST 2018-2019

This checklist aids in placement of students into their major coursework and documents the department evaluation of transferred credit and course waivers, based on coursework listed on the Degree Audit Report (DARs). A student must complete General Education and Liberal Studies (GELS) along with other graduation requirements for graduation – refer to your DARs. All coursework for the major must be completed with the grade of C- or better.

Student Name	Metro State ID #	Admission Date or Semester
Advisor Name	Evaluation Date	Declaration Date or Semester

MATH & PRE-MAJOR FOUNDATION: 16 CREDITS

Each foundation science course must include at least one semester credit of professionally supervised, on-ground laboratory experience with standard undergraduate laboratory equipment and materials. Note that Math foundation courses are pre-requisites that do not count toward major credit totals.

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
MATH 115 OR MATH 120 OR Placement	College Algebra OR Precalculus				
BIOL 111	General Biology I				
BIOL 112	General Biology II				
CHEM 111	General Chemistry I				
CHEM 112	General Chemistry II				

CORE REQUIREMENTS FOR MAJOR: 23-27 CREDITS

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
BIOL 211 <u>OR</u> BIOL 301	Principles of Genetics OR Genetics			4	
CHEM 231 & 231L	Organic Chemistry I and lab			5	

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
PHYS 211	Calculus Based Physics I			5	
MATH 208 OR MATH 210 & MATH 211	Applied Calculus OR Calculus I and II			4-8	
CHEM 332 & 332L OR PHYS 212	Organic Chemistry II and lab OR Calculus-based Physics II			5	

UPPER-DIVISION BIOLOGY CORE COURSES: 15 CREDITS

Select one course with lab in each of the three core categories.

CELL AND MOLECULAR COURSE OPTIONS – SELECT ONE

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
BIOL 302	Cell Biology and Histology			5	
BIOL 304	Molecular Biology			5	
CHEM 301 OR BIOL 307	Biochemistry			5	

ECOLOGY AND EVOLUTIONARY COURSE OPTIONS – SELECT ONE

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
BIOL 310	Ecology			5	
BIOL 312	Evolution			5	
BIOL 316	Behavioral Ecology			5	
ESCI 315	Limnology			5	

PHYSIOLOGY AND ORGANISMAL COURSE OPTIONS – SELECT ONE

Course #	Title	Transfer Equivalent Details	Grade	Credits	Term
BIOL 311	Plant Physiology			5	
BIOL 322	Comparative Animal Physiology			5	
BIOL 324	Invertebrate Biology			5	
BIOL 330	Biology of Microorganisms			5	

CAPSTONE AND ELECTIVE COURSE REQUIREMENT: 14 CREDITS

An additional 14 credits of upper-division biology courses chosen from the list of core courses above, the list of elective courses below, and other approved 300- or 400-level biology courses (see advisor for details).

300-LEVEL ELECTIVE OPTIONS

This upper division elective category includes the core courses listed above and the following courses. Twenty-five (25) upper division credits are required, of which three credits need to be at the 400 or 500 level.

Course #	Title	Grade	Credits	Term
BIOL 320	Ecosystems and Global Ecology		5	
BIOL 350I	Internship in Biology		1-4	

400 AND 500-LEVEL ELECTIVE OPTIONS

A minimum of three credits is required in this upper division elective category.

Course #	Title	Grade	Credits	Term	Course #	Title	Grade	Credits	Term
BIOL 406	Biology of Cancer		3		BIOL 489	Senior Research in Biology		1-4	
BIOL 415	Pollution Ecology		3		BIOL 490H	Honors Research Project		1-4	
BIOL 416	Invasion Biology		3		BIOL 511H	Honors Freshwater Ecology and Quality		3	
BIOL 418	GIS for Natural Sciences		3		BIOL 512H	Honors Insect Ecology and Management		3	
BIOL 422	Neurophysiology		3		BIOL 513H	Honors Wetland Ecology		3	
BIOL 426	Comparative Biomechanics		3		BIOL 514H	Honors Forest Ecology		3	
BIOL 469	Seminars in Biology		1		CHEM 421	Medicinal Chemistry		3	
BIOL 471	Science Journal Discussion		1-2						
BIOL 479	Advance Topics in Biology		1-5						

Subject to advisor approval, up to 4 credits of HBIO201 or HBIO205 or another 200-level biology course may be used to fulfill this elective category.

200-level Course #	Title	Transfer Equivalent Details	Grade	Credits	✓

ADDITIONAL NOTES, CREDIT TOTALS OR COMMENTS:

Academic advisor notes:

GRADUATION REQUIREMENTS

Below is a summary of residency and graduation requirements for this major and used as an advising tool as you work towards completion. Students are advised to reference their DARs for official graduation requirements.

Major Requirements Checklist	In Progress	Completed
68 Major credits		
25 Metro State Major Credits		
25 Upper Division Major (300 or higher)		

University Requirements Checklist	In Progress	Completed
120 Total Credits (minimum)		
30 Metro State Credits		
40 Upper Division (300 or higher)		
48 credits GELS +RIGR	See DARs for details	

NATURAL SCIENCES DEPARTMENT CONTACT INFORMATION

For specific questions about this major program or equivalencies of prior coursework at other institutions, contact the Chair of the Natural Sciences Department at:

Email: natural.sciences@metrostate.edu Web: www.metrostate.edu/natural-sciences

Tel: 651-793-1515



College of Sciences

METROPOLITAN STATE UNIVERSITY

College of Sciences

700 East Seventh Street

Saint Paul, MN 55106-5000

Tel: 651-793-1606

Email: COS@metrostate.edu

Web: www.metrostate.edu/COS



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