

2017-2018 B.S. Biology – Molecular Biology Concentration

NAME _____ ID# _____

UNIVERSITY CORE

COLLEGE CORE

A. Core Foundations

CORE 101 _____ 3
 CORE 102 _____ 3
 HNRS 103* _____ 3
 CORE 201 _____ 3
 COMS 114 _____
 PHIL 111: 213 _____
 CORE 202 _____ 3
 PHIL 112 _____

NOTE: Courses listed in multiple areas can only be used to fulfill a single area requirement.

Students can use two courses with their major prefix to fulfill core requirements.

B. Core Skills & Knowledge**

MATHEMATICAL SCIENCES (3SH)
 MATH 119, 138, 151, 152 _____ 3
NATURAL SCIENCES (4 SH)
 CHEM 101 _____ 4
HUMANITIES (3 SH)
 _____ 3
 One of the following: CLSS:110 CCST: 110 ENGL 200, HIST 101, 102 PHIL 111, 112, 200; POSC 110; RELN 111, 112, 203, 206
VISUAL & PERFORMING ARTS (3 SH)
 _____ 3
 One of the following: ART 111, 215, 216 CVPA 266 DNCE 111 MUSC 100, 121, 123 THEA 100, 180
SOCIAL/BEHAV. SCIENCES (3 SH)
 _____ 3
SOCY 110 or 121 recommended
 One of the following: ANSC 101, APST 200 ECON 205, 206, GEOG 101, 102, 103 HIST 111, 112 POSC 120 PSYC 121 RELN 205 SOCY 110, 121

A. National & International Perspectives**

U. S. PERSPECTIVES (3 SH)
 ECON 205/206 recommended _____ 3
 One of the following: APST 200 ECON 101, 205, 206, ENGL 203 GEOG 201, 202, 203 HIST 111, 112 POSC 120, SOCY 110
GLOBAL PERSPECTIVES (3SH)
GEOG 140 recommended _____ 3
 One of the following: CVPA 266, ENGL 201, 202 FORL 103 GEOG 101, 102, 140, 280 HIST 101, 102 INST 101 ITEC 112 PEAC 200 RELN 112, 205, SOCY 121, THEA 180 WMST 101, WMST 101

B. Supporting Skills & Knowledge

NATURAL SCIENCES OR MATH (3-4 SH)
 STAT 219 _____ 3
HUMANITIES, VISUAL & PERFORMING ARTS, OR FOREIGN LANGUAGES (3-4 SH)
 _____ 3-4
 One of the following: CLSS 110 CCST 110 ENGL 200 HIST 101, 102 PHIL 111, 112, 200; POSC 110; RELN 111, 112, 203, 206; CVPA 266; Or ART 100, 215, 216 DNCE 111, MUSC 100, 121, 123 THEA 100, 180 Or CHNS 101: 102, 201: 202 ARAB 101, 102, 201, 202, FORL 100, 109, 200, 210, 209, 309, 409; FREN 100, 200:210, 300, 320 GRMN 100, 200: 210, 300 LATN 101 102, 201, 350; RUSS 100, 200, 210, 300; SPAN 101: 102, 105 201, 202
SOCIAL/ BEHAV. SCI. OR HEALTH & WELLNESS (3SH)
SOCY 110 or 121 recommended _____ 3
 One of the following: ANSC 101, APST 200 ECON 205, 206 GEOG 101, 102, 103 HIST 111, 112 POSC 120; PSYC 121 RELN 205 SOCY 110, 121, HLTH 111,200, NURS 111 NUTR 214; RCPT 200

Biology Major - Molecular Biology Concentration

Course number	Credits	Course name	Fall/Spring	Prerequisites (All BIOL prerequisites must be C or higher)
BIOL 160*	(2)	Introductory Seminar in Biology	F/S	Freshmen only
BIOL 460*	(2)	Advanced Seminar in Biology	F/S	BIOL 131, 132, 231 and 232 (232 may be concurrent)
*OR Transfer students or others who do not take BIOL 160 must take 4 hours of BIOL 460 (2:2) or 2 hours BIOL 460 plus one additional 3XX/4XX level BIOL elective (excluding BIOL 310, 311, 322, 334, 491, 492 and 495).				
BIOL 131	(4)	Ecology and Adaptation	F/S	
BIOL 132	(4)	Biology of Cells and Microorganisms	F/S	
BIOL 231	(4)	Genetics, Evolution, and Development	F/S	BIOL 132
BIOL 232	(4)	Organismal Biology	F/S	BIOL 131
BIOL 131, 132, 231 and 232 may only be taken TWICE, and must be completed with C or higher before taking any 3XX or 4XX level BIOL Electives.				
CHEM 101	(4)	General Chemistry	F/S/SU	
CHEM 102	(4)	General Chemistry	S/SU	CHEM 101
B.S Requirements				
CHEM 301	(4)	Organic Chemistry I	F/SU	CHEM 102
CHEM 302	(4)	Organic Chemistry II	S/SU	CHEM 301
STAT 219	(3)	Statistics for Biology	F/S/SU	
MATH 119/138/151/152	(3)	Math Core Curriculum see above	F/S/SU	
BIOL 408	(4)	Principles of Microbiology	F/S	BIOL 131, 132, 231, and 232
BIOL 450	(4)	Molecular Biology	F	BIOL 131, 132, 231, 232 & CHEM 102
BIOL 471 and	(3)	Biochemistry I (same as CHEM 471)	F	BIOL 105 or 132; CHEM 302
BIOL 472	(3)	Biochemistry II (same as CHEM 472)	S	BIOL 471 or CHEM 471

Concentration elective hours (15- or 19 (11 BIOL+8 PHYS) credits): Students must take either 15 credit hours from the following list or 11 credit hours from the list and 8 hours of Physics (PHYS 111: PHYS 112 or PHYS 221:PHYS 222).

BIOL 301 or PHIL 310	(2/3)	Bioethics or Professional Ethics		
BIOL 337	(4)	Immunology	S	BIOL 131, 132, 231 & 232
BIOL 383	(4)	Molecular Forensic Biology	S (odd years)	BIOL 231 or BIOL 471/472 or BIOL 105 & instr. perm.
BIOL 409	(4)	Virology	S (odd years)	BIOL 131, 132, 231, 232 & 322
BIOL 410	(4)	Human Anatomy Physiology for Science Majors	F	BIOL 231 and CHEM 101:102 or CHEM 302
BIOL 419	(3)	Introduction to Molecular Bioinformatics	F (even years)	STAT 200 or STAT 219 & BIOL 131-232 & CHEM 102, or BIOL 471/472, or instr. permission.
BIOL 432	(3)	The Eukaryotic Cell	F (even years)	BIOL 131, 132, 231, 232 & CHEM 102
BIOL 430	(3)	Genes and Development	S (even years)	BIOL 131, 132, 231 & 232 or instr. perm.
BIOL/CHEM 474	(1)	Biochemistry Laboratory	F/S	CHEM 474 or BIOL 471
BIOL 478	(4)	Endocrinology	F (even years)	BIOL 131, 132, 231, 232 & 322
BIOL 491/492/495	(1-6)	Directed Study & Research / Undergraduate Research / Internship in Biology	F/S	8 cr. BIOL, 2.5 GPA, Dept & Inst. approval

Graduation Requirements: To graduate with a major in biology a student must attain an overall major grade point average of 2.0 or higher. Major GPA is calculated by using BIOL 131, BIOL 132, BIOL 160, all biology courses 200-level or higher, all courses outside of biology used as electives (including CHEM 471:472, Physics if used as an elective, Geography or Geology used as an environmental concentration elective), and any course used as an elective by academic petition.