

# 2014-2015 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  
 CORE 202 \_\_\_\_\_ 3

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

Students can use only one course with their major prefix to fulfill core requirements.

\* Honors course – will meet CORE 101 & 102 for those students in the RU honors program

### B. Core Skills & Knowledge

Courses must be from different disciplines:

#### MATHEMATICAL SCIENCES (3 SH)

MATH 119, 138, or 151 \_\_\_\_\_ 3

#### NATURAL SCIENCES (4 SH)

CHEM 101 \_\_\_\_\_ 4

#### HUMANITIES (3 SH)

One of the following: CLSS 110 CCST 110 ENGL 200, HIST 101, 102 PHIL 111, 112, 114; POSC 110; RELN 111, 112, 203, 206 \_\_\_\_\_ 3

#### VISUAL & PERFORMING ARTS (3 SH)

One of the following: ART 100, 215, 216 CVPA 266 DNCE 111 MUSC 100, 121, 123 THEA 100, 180 \_\_\_\_\_ 3

#### SOCIAL/BEHAV. SCIENCES (3 SH)

One of the following: ANSC 101, APST 200 ECON 105, 106 GEOG 101, 102, 103 HIST 111, 112 POSC 120; PSYC 121 RELN 205 SOCY 110, 121 \_\_\_\_\_ 3

### A. National & International Perspectives

Courses must be from different disciplines:

#### U. S. PERSPECTIVES (3 SH)

\_\_\_\_\_ 3  
 One of the following: APST 200 ECON 101, 105, 106, ENGL 203 GEOG 201, 202, 203 HIST 111, 112 POSC 120, SOCY 110 \_\_\_\_\_ 3

#### GLOBAL PERSPECTIVES (3S H)

One of the following: ENGL 201. 202 FORL 103; CVPA 266, GEOG 101, 102, 140, 280 HIST 101, 102 INST 101 ITEC 112 PEAC 200 RELN 112, 205, SOCY 121, THEA 180 WMST 101 \_\_\_\_\_ 3

### 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, 114 POSC 110; RELN 111, 112, 203, 206 Or ART 100, 215, 216; CVPA 266; DNCE 111 MUSC 100, 121, 123 THEA 100, 180 Or CHNS 101: 102, 201: 202 ARAB 100, 200, 210 FORL 100, 109, 200, 209, 210, 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, 201,202

#### SOCIAL/ BEHAV. SCI. OR HEALTH & WELLNESS (3 SH)

\_\_\_\_\_ 3  
 One of the following: ANSC 101, APST 200 ECON 105, 106 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

## Molecular Biology CONCENTRATION

## 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				
4 hours of BIOL 460 (2:2)				
BIOL	131 _____ (4)	Ecology and Adaptation	F/S	
BIOL	132 _____ (4)	Biology of Cells and Microorganisms	F/S	131(BIOL Majors) or C or better in CHEM 101
BIOL	231 _____ (4)	Genetics, Evolution, and Development	F/S	BIOL 132
BIOL	232 _____ (4)	Organismal Biology	F/S	BIOL 131, 132, and 231
CHEM	101 _____ (4)	General Chemistry	F/S/SU	
CHEM	102 _____ (4)	General Chemistry	S/SU	CHEM 101
STAT	219 _____ (3)	Statistics for Biology	F/S/SU	
MATH	119/138/151 _____ (3)	Math Core Curriculum see above	F/S/SU	
BIOL	408 _____ (4)	Principles of Microbiology	F/S	BIOL 132 and 231
BIOL	450 _____ (4)	Molecular Biology	F	CHEM 102 & BIOL 231 or BIOL 334
BIOL	471 _____ (4)	Biochemistry	F	BIOL 105 or 132; CHEM 302
BIOL	472 _____ (3)	Biochemistry	S	BIOL 471
<b>Concentration elective hours (15-19 Hours):</b> Students must select either 15 credits hours from the courses listed below or 11 credit hours from the courses listed below in combination with 8 hours of physics courses chosen from (PHYS 111:112 or PHYS 221: 222)				
PHYS	111:112 _____ (4), _____ (4)	General Physics	F/S	MATH 137 or equivalent
OR				
PHYS	221:222 _____ (4), _____ (4)	Physics	F/S	MATH 151
BIOL	301) _____ (2/3)	Bioethics		
OR				
PHIL	310 _____ (4)	Professional Ethics		
BIOL	337 _____ (4)	Immunology	S	BIOL 132:232
BIOL	383 _____ (4)	Molecular Forensic Biology	S'11 every other S	BIOL 231 or BIOL 471/472 or instr. perm.
BIOL	409 _____ (4)	Virology		BIOL 132:231
BIOL	410 _____ (4)	Human Anatomy Physiology for Science Majors	F/S	BIOL 231 or CHEM 101:102
BIOL	419 _____ (3)	Introduction to Molecular Bioinformatics	F' 10 every other F	STAT 200 & BIOL132:231 & CHEM 102, or BIOL 471/472, or inst. prm.
BIOL	432 _____ (3)	The Eukaryotic Cell	F' 10 every other F	BIOL 132 & CHEM 102
BIOL	430 _____ (4)	Genes and Development	S' 10 every other S	BIOL 132 and 231 or instr. perm.
BIOL	474 or CHEM 474 _____ (1)	Biochemistry Laboratory		
BIO	491 _____ (1-6)	Directed Study and Research	F/S	8 cr. in BIOL, 2.5 GPA in BIOL, Dept. chair & Inst. approval
BIOL	492 _____ (1-6)	Undergraduate Research	F/S	8 cr. in BIOL, 2.5 GPA in BIOL, Dept. chair & Inst. approval
BIOL	495 _____ (1-6)	Internship in Biology	F/S	16 credit hrs. lab science, 2.5 BIOL GPA, Dept. chair approval