

# 2015-2016 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)

\_\_\_\_\_ 3

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

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

\_\_\_\_\_ 3

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

#### SOCIAL/BEHAV. SCIENCES (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

### 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

#### GLOBAL PERSPECTIVES (3S H)

\_\_\_\_\_ 3

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

### 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

BIOL 160\* \_\_\_\_\_ (2) Introductory Seminar in Biology F/S  
 BIOL 460\* \_\_\_\_\_ (2) Advanced Seminar in Biology F/S

\*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).

## Prerequisites (All BIOL prerequisites must be C or higher)

Freshmen only  
 BIOL 131, 132, 231 and 232 (232 may be concurrent)

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 232 \_\_\_\_\_ (4) Organismal Biology F/S

BIOL 132  
 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  
 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 450 \_\_\_\_\_ (4) Molecular Biology F  
 BIOL 471 \_\_\_\_\_ (4) Biochemistry F  
 BIOL 472 \_\_\_\_\_ (3) Biochemistry S

CHEM 101  
 BIOL 132 and 231  
 CHEM 102 & BIOL 231 or BIOL 334  
 BIOL 105 or 132; CHEM 302  
 BIOL 471

**Concentration elective hours (15- or 19 (11 BIOL+8 PHYS) credits):** 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.**

BIOL 301 or PHIL 310 \_\_\_\_\_ (2/3) Bioethics or Professional Ethics  
 BIOL 337 \_\_\_\_\_ (4) Immunology S  
 BIOL 383 \_\_\_\_\_ (4) Molecular Forensic Biology S'11 every other S  
 BIOL 409 \_\_\_\_\_ (4) Virology  
 BIOL 410 \_\_\_\_\_ (4) Human Anatomy Physiology for Science Majors F/S  
 BIOL 419 \_\_\_\_\_ (3) Introduction to Molecular Bioinformatics F' 10 every other F  
 BIOL 432 \_\_\_\_\_ (3) The Eukaryotic Cell F' 10 every other F  
 BIOL 430 \_\_\_\_\_ (3) Genes and Development S' 10 every other S  
 BIOL/CHEM 474 \_\_\_\_\_ (1) Biochemistry Laboratory  
 BIOL 478 \_\_\_\_\_ (4) Endocrinology F' 10 every other F  
 BIOL 491/492/495 \_\_\_\_\_ (1-6) Directed Study & Research / Undergraduate Research / Internship in Biology F/S

BIOL 132:232  
 BIOL 231 or BIOL 471/472 or instr. perm.  
 BIOL 132:231  
 BIOL 231 or CHEM 101:102  
 STAT 200 & BIOL132:231 & CHEM 102, or BIOL 471/472, or inst. prm.  
 BIOL 132 & CHEM 102  
 BIOL 132 and 231 or instr. perm.  
 BIOL 232 or BIOL 322  
 F/S 8 cr. BIOL, 2.5 GPA, Dept & Inst. approval

B.S. Requirements: (8 Hours)

CHEM 301	_____ (4)	Organic Chemistry	F	CHEM 102
CHEM 302	_____ (4)	Organic Chemistry	S	CHEM 302

**Graduation Requirements:** Students must attain a minimum 2.0 in major and overall GPA in order to graduate. Major GPA is calculated using grades received in Biology 131, 132, all Biology courses 200 level or higher, all courses outside of Biology used as electives (including: Chem 471:472 and Physics if used as elective) and/or any course used as an elective by academic petition. Students are required to complete a minimum of 120 credit hours.