

## B.S. IN SCIENCE

2008-09

### College of Humanities and Sciences General Education Requirements

#### Foundational Courses

1. Writing : Complete each course.	Credits	Grade
UNIV 111 Focused Inquiry I	3	
UNIV 112 Focused Inquiry II (C grade or better required)	3	
ENGL 200 Writing & Rhetoric II (C grade or better required; must complete 24 credits before enrolling)	3	

2. Mathematics & Statistics: Choose one course.	Credits	Grade
Complete the course specified by your specific track.		
Course Taken		

#### Supporting Courses

3. Human, Social, and Political Behavior: Choose one course.	Credits	Grade
ANTH/INTL 103 Introduction to Anthropology HUMS 300 Great Questions of the Social Sciences POLI 103 U.S. Government PSYC 101 Introduction to Psychology SOCY 101 General Sociology		
Course Taken	3	

4. Science and Technology: Choose one course.	Credits	Grade
BIOL 101 Biological Concepts (4 credits) BIOL/ENVS 103 Environmental Science (4 credits) CHEM 110 Chemistry and Society FRSC 202 Crime and Science INSC 201 Energy! PHYS 103 Elementary Astronomy		
Course Taken		

5. Diverse and Global Communities: Choose one course.	Credits	Grade
INTL 101 Human Societies and Globalization MASC/INTL 151 Global Communication POLI/INTL 105 International Relations RELS 108 Human Spirituality WMNS 201 Introduction to Women's Studies		
Course Taken	3	

6. Literature and Civilization: Choose one course.	Credits	Grade
ENGL 215 Readings in Literature HIST 201 The Art of Historical Detection HUMS 250 Reading Film PHIL 201 Critical Thinking About Moral Problems WRLD 203 Cultural Texts and Contexts WRLD 230 Introduction to World Cinema		
Course Taken	3	

7. General Education Electives: Choose any 2 additional courses from boxes 3, 4, 5, or 6 (must be from two different boxes).	Credits	Grade
Course Taken		
Course Taken		

#### Experiential Courses

8. General Education Modules: Complete each.	Credits	Grade
Experiencing the Fine Arts: successfully complete one course from the School of the Arts (1-3 credits)		
HUMS 202 Choices in a Consumer Society	1	
Computer Literacy Requirement		

9. Foreign Language: Must demonstrate competency through the 102 level by previous high school background or placement test.	Credits	Grade
101 level		
102 level		

10. Senior Capstone: taken in major within last 30 credit hours	Credits	Grade

 Has VCCS Associate Degree \_\_\_\_\_

NAME

<b>SCIENCE MAJOR: Core Requirements</b>	<b>Biology Track</b>	<b>Chemistry Track</b>	<b>Mathematics Track</b>	<b>General Science Track</b>	<b>Physics Track</b>
<b>Introductory Biology Course (4-5 credits)</b>	BIOL 151 with Laboratory	BIOL 151 with Laboratory	BIOL 101, 102,103* or 151 with Laboratory	BIOL 101, 102, 103 or 151 with Laboratory	BIOL 101, 102, 103 or 151 with Laboratory
<b>Introductory Chemistry Course (4 credits)</b>	CHEM 101 with Laboratory	CHEM 101 with Laboratory	CHEM 101 or CHEM 110* with Laboratory	CHEM 101 or CHEM 110* with Laboratory	CHEM 101 with Laboratory
<b>Introductory Physics Course (4-5 credits)</b>	PHYS 201 or 207	PHYS 201 or 207	PHYS 101, L101 or 107*, or 201, or 207	PHYS 101, L101 or 107, or 201, or 207	PHYS 207
<b>Science Course ** (3 credits)</b>	Upper-Level Science or ENVS/GEOG 401	Upper-Level Science or ENVS/GEOG 401	Upper-Level Science	Upper-Level Science	Upper-Level Science or ENVS/GEOG 401
<b>Additional Science Course (3 credits)</b>	INSC 301 or ENVS/GEOG 411	INSC 301 or ENVS/GEOG 411	INSC 301	INSC 301	INSC 301 or ENVS/GEOG 411
<b>Math Course (By placement or 4 credits)</b>	MATH 151	MATH 151	MATH 151	MATH 151	MATH 151
<b>Statistics Course (3 credits)</b>	STAT 208 or 210	STAT 208 or 210	STAT 208 or 210	STAT 208 or 210	Satisfied by track requirements
<b>Additional Math Course (3-4 credits)</b>	MATH 200 or STAT beyond 210	MATH 200	MATH 200	MATH 200	MATH 200

\* Recommended among Options      \*\*Upper-Level Science selected with permission of advisor

**NOTE:** Depending on the Requirements of your chosen track a "C" grade or better in each prerequisite course: BIOL 151, 152, BIOZ 151L-152L, CHEM 100, CHEM 101, CHEM 102, CHEM 301, CHEM 302 or their equivalent, is required for enrollment in all advanced courses.

## TRACK

### Biology Track Credits

- BIOL 152 and BIOZ 152L Introduction to Biological Sciences II and Laboratory 4
- BIOL 218 Cell Biology 3
- BIOL 310 and 310L Genetics 5
- BIOL 317 Ecology 3
- CHEM 102 and CHEZ 102L General Chemistry and Lab 4
- GEOG/ENVS 105 and GEOZ/ENVZ 105L Physical Geology and Lab 4
- PHYS 202 and PHYZ 202L General Physics and Laboratory OR PHYS 208 and PHYZ 208L University Physics and Laboratory 4 or 5
- One upper-level animal course with laboratory 4
- One upper-level plant course, with laboratory 4

### Chemistry Track Credits

- BIOL 152 and BIOZ 152L Introduction to Biological Sciences II and Laboratory 4
- BIOL 317 Ecology 3
- CHEM 102 and CHEZ 102L General Chemistry and Lab 4
- CHEM 301-302 Organic Chemistry 6
- CHEZ 301L and CHEZ 302L Organic Chemistry Lab 5
- CHEM 309 and CHEZ 309L Quantitative Analysis 4
- GEOG/ENVS 105 and GEOZ/ENVZ 105 L Physical Geology and Lab 4
- PHYS 202 and PHYZ 202L General Physics and Lab OR PHYS 208 and PHYZ 208L Univ. Physics and Lab 4 or 5

### General Science Track Credits

- BIOL 315/ENVS 314 Man and Environment, BIOL 332/ENVS 330 Environmental Pollution OR BIOL 317 Ecology 3
- ENVS/GEOG 401 Meteorology and Climatology 3
- ENVS/GEOG 411 Oceanography 3
- PHYS 103 and PHYZ 103L Astronomy Lab 4
- GEOG/ENVS 105 and GEOZ/ENVZ 105L Physical Geology and Lab OR GEOG 204 and GEOZ 204L Physical Geography and Laboratory 4
- A second introductory course i(with laboratories) in TWO of the following areas: Biology, Physics and Chemistry courses. 8

- Two additional courses at the 200 level or higher in mathematics, science, teaching mathematics and/or science with adviser's approval. Recommended upper level courses are BIOL 320, ENVS 335, EDUS 300 and/or 301 6

### Mathematics Track Credits

- MATH 131 Contemporary mathematics 3
- MATH 211 Mathematical Structures or MATH 300 3
- MATH 255 Introduction to Computational Math or CMSC 255 Introduction to Programming 3
- MATH 303 Geometry 3
- MATH 310 Linear Algebra 3
- MATH/OPER 327 Mathematical Modeling 3
- MATH 554 Using Technology in Teaching Math 3
- MATH 351 Applied Abstract Algebra 3
- Two additional courses at the 200 level or higher in mathematics, science, teaching mathematics and/or science with adviser's approval. EDUS 300 and/or 301 may be used if student is preparing for teaching 6

### Physics track Credits

- PHYS 208 University Physics II 5
- PHYS 320 Modern Physics 3
- PHYZ 320L Modern Physics Laboratory 1
- PHYS 301 Classical Mechanics I 3
- PHYZ 450 Senior Physics Laboratory (WI) 3
- MATH 201 Calculus and Analytic Geometry 4
- MATH 301 Differential Equations 3
- MATH 307 Multivariate Calculus 3
- An additional 9 credits taken from any of the following: PHYS 307 The physics of Sound and Music, PHYS 103 Elementary Astronomy, PHYZ103L Elementary Astronomy Laboratory, CHEM 102 General Chemistry II, CHEM/FRSZ102L General Chemistry Laboratory II, MATH 327 Mathematical Modeling, or any courses for the bachelor of science in Physics 9

### Additional degree requirements

- Cumulative 2.00 GPA
- 120 Total Earned Hours
- 45 credits in upper level courses or the equivalent
- At least 30 of the last 45 credits taken at VCU
- 2.00 GPA in major