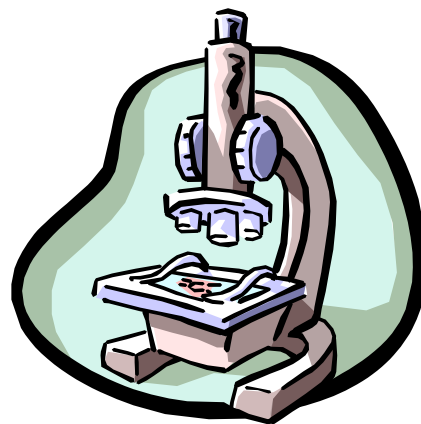


Undergraduate Biology at UVI



Updated 24 Jan 2020

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Ms. Moriah Sevier, Undergraduate Teaching Laboratory Manager for Biology and Chemistry

Mr. Stephen Prosterman, Diving Supervisor

Emerging Caribbean Scientists <http://ecs.uvi.edu>

Marine Biology Program Home Page <http://www.uvi.edu/academics/science-math/departments/bio-sciences/marine-biology/default.aspx>

Pre-health careers home page: <http://www.uvi.edu/academics/science-math/departments/bio-sciences/pre-med/default.aspx>

For copies of the Biology or Marine Biology handbook, please email your advisor or download it from the UVI website.

BA BIO Catalog Description

The requirements for a Bachelor of Arts Degree in Biology consist of the following Biology and related courses plus a course of study plan written by each candidate and his or her program advisor. Study plan guidelines and procedures will be published by the Division of Science and Mathematics from time to time. The study plan must be approved by the faculty of the Biology Program and will be submitted to the Enrollment Management Office. Course numbering reflects the year by which courses should be completed. The course of study plan must include at least one plant-based* and one animal-based[†] course. Any change in the study plan must be approved by the advisor and the program prior to course registration.

A. Required Courses in Biology (24 credit hours):

		Credits
BIO 141-142	General Biology I-II	4-4
BIO 245	Genetics	4
BIO 223	Ecology	4
BIO 360**	Cell and Molecular Biology I	4
BIO 397,398	Junior Science Seminar I,II	1,1
BIO 497	Senior Science Seminar I,II	1
SCI 497 or BIO 498	Interdisciplinary Sr Sem or Sr Sem II	1

B. Required Courses in Related Fields (22-24 credit hours):

CHE 151-152	General Chemistry I-II	5-5
MAT 241 or MAT 235	Introduction to Calculus and Analytic Geometry I Introductory Statistics with Applications	4 4
PHY 211-212 or PHY 241-242 or PHY 241-212	Introduction to Physics I-II General Physics I-II General Physics I – Introduction to Physics II	4-4 5-5 5-4

C. Science Electives: An additional 18 credit hours minimum are required from the following:

BIO 210 Research Methods I
BIO 220[†], Marine Invertebrate Zoology
BIO 224, Population Biology
BIO 295, Responsible Conduct in Research
BIO 310 Research Methods II
BIO 339[†], Vertebrate Structure
BIO 342[†], Animal Physiology
BIO 349*, Aquatic Plant Biology
BIO 350*, Terrestrial Plant Biology
BIO 352*, Plant Physiology
BIO 353[†], Developmental Biology
BIO 355-356, Biology of Microorganisms I-II
BIO 370, Evolution
BIO 430, Coral Reef Biology
BIO 460***, Cell and Molecular Biology II
BIO 465- 466, Selected Topics in Biology
BIO 495 (maximum 6 credits), Directed Independent Research in Biology
BIO 496 (maximum 4 credits), Internship/Field Studies
Any MBI or MSC course
Any 200, 300, or 400 level Chemistry, Math, or Physics Course
SCI 100 (if taken as a freshman), The Caribbean: The Natural World
Any CSC course except 111 or 119

* *Students matriculated before 2002 may substitute BIO 346 for BIO 360

*** Students matriculated before 2002 may substitute BIO 421 for BIO 460

****Depending on content, a Selected Topics in Biology may count as plant or animal based course.

Graduation Requirements - All B.A. Degrees

To qualify for a bachelor of arts degree, students must successfully complete a minimum of 120 credits (exclusive of physical education) including the general education requirements, the required courses in the major field, and such additional courses as they may select with the assistance of their faculty advisors to meet the requirements of the major.

The General Education requirements for graduation in the bachelor of arts degree programs are listed below. Specific guidance about the courses that are available to meet these new General Education requirements will be provided to students in advance of registration. Students are required to meet with their advisors in the selection of their courses.

I. General Education Requirements

A. FRESHMAN DEVELOPMENT SEMINAR (FDS)* 0-1

B. HUMANITIES 36

COM 119	Interpersonal Communication and Leadership	3
COM 120	Public Speaking	3
ENG 120	English Composition	3
ENG 201	Research and Applied Writing	3
ENG 261-262	World Literature I-II	6
SPA/FRE 131-132-231	Functional, Elementary and Intermediate French/Spanish	9
HUM 115	Introduction to Humanities	3
PHI 200	Critical Thinking	3
	Total	36

C. MATHEMATICS 6-8

MAT 140 College Algebra with Applications

OR

MAT 143 Precalculus Algebra

AND one of the following:

MAT 153 College Trigonometry

MAT 232 Calculus for Business and Social Sciences

MAT 235 Introductory Statistics with Applications

OR

For students with advanced preparation beyond the above levels, a minimum of six (6) credits of higher level mathematics courses 6-8

D. NATURAL SCIENCES 6-9

SCI 100* The Caribbean: The Natural World

And either

SCI 200 Changes in the Natural World

SCI 301 Application of Principles from the Natural World

OR

Any two laboratory courses in the Natural Sciences

No need to take SCI200 or SCI301 as all the other lab course you take will fulfill your Natural Science requirements.

6-9

E. SOCIAL SCIENCES		6-9
SSC 100*	An Introduction to the Social Sciences: A Caribbean Focus	3

and
 Two other courses in the Social Sciences:
 Anthropology, Economics, Geography, History, Political Science, Psychology, or Sociology 6-9

TOTAL CREDITS 54-63

* Requirements of the Freshman Year Program for all students matriculating into the university with fewer than 24 credits.

II. SUMMARY	Credits
Freshman Development Seminar	0-1
Humanities	36
Mathematics	6-8
Natural Sciences	6-9
Social Sciences	6.9
TOTAL	54-63

III. OTHER REQUIREMENTS

Students are required to take 0.5 credit hour in Physical Education for every semester they are full-time students up to the required two (2) credit hours. PLS 200 may also be used to meet this requirement.

Students must earn at least 30 of the last 36 credits at the University of the Virgin Islands. This particular requirement may be waived by the Chancellor only in cases where the student must complete the final year(s) of studies in another institution recognized by the University of the Virgin Islands. Course work more than ten years old must be reviewed on a case-by-case basis to determine its appropriateness to the current University course requirements. Appeals should be directed to the Chancellor. In order to graduate, students must earn at least two times as many quality points as registered credits in all their courses as well as in the courses of their major.

1. English Proficiency Exam (EPE)
2. Computer Literacy Requirement (CLE)

BS BIO Catalog Description

The requirements for a Bachelor of Science Degree in Biology consist of the following Biology and related courses plus a course of study plan written by each candidate and his or her program advisor. Study plan guidelines and procedures will be published by the Division of Science and Mathematics from time to time. The course of study plan must be approved by the faculty of the Biology Program and will be submitted to the Enrollment Management Office. Course numbering reflects the year by which courses should be completed. The course of study plan must include at least one plant* based and one animal[†] based course. Any change in the study plan must be approved by the advisor and the faculty of the Biology Program prior to course registration. In addition to fulfilling the general education requirements for a bachelor of sciences degree, students must pass a Science Comprehensive Examination following completion of formal academic coursework and prior to graduation.

A. Required Courses in Biology (24 credit hours):

BIO 141-142	General Biology I-II	4-4
BIO 245	Genetics	4
BIO 223	Ecology	4
BIO 360**	Cell and Molecular Biology I	4
BIO 397,398	Junior Science Seminar I,II	1,1
BIO 497	Senior Science Seminar I	1
SCI 497 or BIO 498	Interdisciplinary Sr Sem or Sr Sem II	1

B. Required Courses in Related Fields (36-38 credit hours):

CHE 151 and 152	General Chemistry	5-5
CHE 253 and 254	Organic Chemistry	5-5
MAT 241 and 242	Introduction to Calculus and Analytic Geometry I, II	4-4
PHY 211-212	Introduction to Physics I-II	4-4
or		
PHY 241-242	General Physics I-II	5-5
or		
PHY 241-212	General Physics I – Introduction to Physics II	5-4

C. Science Electives: An additional 30 credit hours minimum are required from the following:

BIO 210, Research Methods I
BIO 220[†], Marine Invertebrate Zoology
BIO 224, Population Biology
BIO 295, Responsible Conduct in Research
BIO 310, Research Methods II
BIO 339[†], Vertebrate Structure
BIO 342[†], Animal Physiology
BIO 349*, Aquatic Plant Biology
BIO 350*, Terrestrial Plant Biology
BIO 352*, Plant Physiology
BIO 353[†], Developmental Biology
BIO 355-356, Biology of Microorganisms I-II
BIO 370, Evolution
BIO 460*** Cell and Molecular Biology II
BIO 430, Coral Reef Biology
BIO 465- 466, Selected Topics in Biology****
BIO 495 (maximum 6 credits), Directed Independent Research in Biology
BIO 496 (maximum 4 credits), Internship/Field Studies
Any MBI or MSC course
Any 200, 300, or 400 level Chemistry, Math, or Physics Course
SCI 100 (if taken as a freshman), The Caribbean: The Natural World
Any CSC course except 111 or 119

* *Students matriculated before 2002 may substitute BIO 346 for BIO 360

*** Students matriculated before 2002 may substitute BIO 421 for BIO 460

****Depending on content, a Selected Topics in Biology may count as plant or animal based course.

Graduation Requirements - All B.S. Degrees

To qualify for a bachelor of science degree, students must successfully complete a minimum of 120 credits (exclusive of physical education) including the general education requirements, the required courses in the major field, and such additional courses as they may select with the assistance of their faculty advisors to meet the requirements of the major.

General Education Requirements

The General Education requirements for graduation in the bachelor of science degree programs are listed below. Specific guidance about the courses that are available to meet General Education requirements will be provided to students in advance of registration. Students are required to meet with their advisors in the selection of their courses.

		Credits
I. GENERAL EDUCATION REQUIREMENTS		
A	FRESHMAN DEVELOPMENT SEMINAR	0-1
B	HUMANITIES	18
C	MATHEMATICS AND SCIENCE	16
SCI 100*	The Natural World: The Caribbean *	3
	College Algebra with Applications or Precalculus Algebra **	4
D. SOCIAL SCIENCES		9-12
SSC 100*	An Introduction to the Social Sciences: A Caribbean Focus	3
	and three other courses in the Social Sciences: Anthropology, Economics, Geography, History, Political Science, Psychology, or Sociology	

No courses are REQUIRED, but ENG201 is a pre-requisite to the EPE, so it and its pre-requisite, ENG120, are recommended. See list of Humanities in the FAQ.

Don't worry about these, as the requirements within the Biology program cover these credits.

II. SUMMARY		
	Freshman Development Seminar	0-1
	Humanities	18
	Mathematics and Science	16
	Social Sciences	9-12
	TOTAL	43-47 credits

III. Other Requirements

Students are required to take 0.5 credit hour in Physical Education for every semester they are full-time students up to the required two credit hours. PLS 200 may also be used to meet this requirement.

Students must earn at least 30 of the last 36 credits at the University of the Virgin Islands. This particular requirement may be waived by the Provost only in cases where the student must complete the final year(s) of studies in another institution recognized by the University of the Virgin Islands. Course work more than ten years old must be reviewed on a case-by-case basis to determine its appropriateness to the current University course requirements. Appeals should be directed to the Provost. In order to graduate, students must earn at least two times as many quality points as registered credits in all their courses as well as in the courses of their major.

Additionally, students must successfully pass the following examinations:

- 1) English proficiency examination (EPE)
- 2) Computer Literacy Examination (CLE)

The 2002-3 catalog does not have an EPE or CLE for BS majors listed. This is an error as these tests have been required in the past.

Required and recommended courses for all BA biology majors:

YEAR 1

- BIO 141-142
- CHE 151-152
- MAT 143-153 (if not calculus ready)
- SOC 100 & SCI 100
- FDS
- BIO 295

(34 credits for year 1)

YEAR 2:

- BIO 245 & BIO 223
- MAT 241 or 235
- COM 119-120
- HUM 115
- ENG 120
- SPA or FRE 131-132
- PE

take EPE, CS

(33 credits for year 2; 67 total)

YEAR 3:

- BIO 360
- BIO 397-398
- PHY 211-212 (or 241-242)
- ENG 201
- PHI 200
- SPA or FRE 231

YEAR 4

- BIO 497
- SCI 497 or BIO 498
- ENG 261-262

ADDITIONAL YEAR 3-4 COURSES:

- Social science, two courses (suggested courses: GOG 221, SSC 220, SSC 327, SSC 328, PSY 240, PSY 310)
- PE, 1 credit
- An additional 14 credits (must include 1 animal & 1 plant course) of science courses; to the right are recommendations according to area of interest.

Recommended additional science courses for biology majors according to the student's area of interest:

CELL & MOLECULAR BIOLOGY or BIOMEDICAL RESEARCH

- BIO 342, BIO 352, BIO 460, & BIO 496

ECOLOGY & EVOLUTION

- BIO 370, BIO/MBI 495, MAT 332, & MBI 424
- BIO 342 or 352
- BIO 220 or MBI 222 or BIO 339 or BIO 350, BIO 349, & SCI 220

MEDICAL SCHOOL or other health related fields

- BIO 339, BIO 342, CHE 253-254, CHE 348, & MAT 241-242
- Also consider BIO 355, BIO 460, BIO 495, BIO 496 & SCI 220

ORGANISMAL BIOLOGY

BIO 220, BIO 339, BIO 342, BIO 349, BIO 350, BIO 352, BIO 355, BIO 370, MBI 222, BIO/MBI 430, BIO/MBI 465- 466

Other courses you may wish to consider: CHE 251, CHE 252, CSC 117, CSC 118, CSC 119, CSC 239, CSC 361, MSC 111, MSC 211, MAT 261, MAT 361, MAT 344 & MAT 352

Courses required or recommended for all BS biology majors:

YEAR 1

- BIO 141-142
- CHE 151-152
- MAT 143-153 (if not calculus ready)
- SOC 100 & SCI 100
- FDS
- BIO 295

(34 credits for year 1)

YEAR 2:

- BIO 245 & BIO 223
- CHE 253-254
- MAT 241-MAT 242
- ENG 120 & 201
- PE

take EPE, CS

(33 credits for year 2; 67 total)

YEAR 3:

- BIO 360
- BIO 397-398
- ENG 300
- PHY 211-212 (or 241-242)

YEAR 4

- BIO 497
- SCI 497 or BIO 498

take comprehensive exam

ADDITIONAL YEARS 3-4 COURSES:

- Humanities electives, 9 additional credits
- Social Science electives, 9 credits (some suggestions: GOG 221, SSC 220, SSC 327, SSC 328, PSY 240, PSY 310)
- PE, 1 credit
- An additional 26 credits of science courses (must include 1 animal & 1 plant course); to the right are recommendations according to area of interest.

Recommended additional science courses for biology majors according to the student's area of interest:

CELL/MOLECULAR BIOLOGY or BIOMEDICAL RESEARCH

- BIO 342, BIO 352, BIO 460, BIO 495, CHE 348, & MAT 235
- Plus two of the following: BIO 339, BIO 349, BIO 350, BIO 355

ECOLOGY & EVOLUTION

- BIO 370, BIO/MBI 495, BIO/MBI 465-466 (if appropriate topic), MAT 332, & MBI 424
- BIO 342 or BIO 352
- BIO 220 or MBI 222 or BIO 339 OR BIO 350 or BIO 349
- If not taking SCI 100, take geography courses to fulfill social science requirements

MEDICAL SCHOOL or other health related fields

- BIO 339, BIO 342, & CHE 348
- Also consider BIO 355, BIO 460, BIO 495, BIO 496, and SCI 220

ORGANISMAL BIOLOGY

BIO 220, BIO 339, BIO 342, BIO 349, BIO 350, BIO 352, BIO 355, BIO 370, BIO/MBI 495, MBI 222, BIO/MBI 430, BIO/MBI 465-466

Other courses you may wish to consider: CHE 251, CHE 252, CSC 117, CSC 118, CSC 119, CSC 239, CSC 361, MSC 111, MSC 211, MAT 261, MAT 361, MAT 344 & MAT 352

Planned Course Offerings¹ in Biology and Marine Biology

<p>Fall, even years BIO 141: General Biology I <i>BIO 151²: Human Anatomy and Physiology I</i> BIO 245: Principles of Genetics <i>BIO 240²: Microbiology</i> BIO 295: Responsible Conduct in Research BIO 339: Vertebrate Structure BIO 349: Aquatic Plant Biology BIO 360: Cell and Molecular Biology I BIO/MBI 397: Junior Science Seminar I BIO/MBI 497: Senior Science Seminar I ENV 200: Intro to Environmental Science & Policy MBI 220: Marine Invertebrate Zoology MSC 111: Open Water Scientific Diving</p>	<p>Spring, odd years BIO 141: General Biology I BIO 142³: General Biology II <i>BIO 151²: Human Anatomy and Physiology I</i> <i>BIO 152^{2,3}: Human Anatomy and Physiology II</i> BIO 210: Research Methods I BIO 223: Ecology BIO 295: Responsible Conduct in Research BIO 342: Animal Physiology BIO 350: Terrestrial Plant Biology Bio 355: Microbiology ENV 365: Topics in Environmental Science BIO/MBI 398: Junior Biology Seminar II BIO/MBI 498: Senior Biology Seminar II MBI 424: Marine Ecology MSC 111: Open Water Scientific Diving MSC 211: Research Diving</p>
<p>Fall, odd years BIO 141: General Biology I <i>BIO 151²: Human Anatomy and Physiology I</i> BIO 245: Principles of Genetics <i>BIO 240²: Microbiology</i> BIO 295: Responsible Conduct in Research BIO 360: Cell and Molecular Biology I BIO 370: Evolution BIO 397: Junior Science Seminar I BIO/MBI 430 Coral Reef Biology BIO/ MBI 465/466 Special Topics with lab BIO 497: Senior Science Seminar I MBI 222: Ichthyology MSC 111: Open Water Scientific Diving SCI 305⁴: Biology of Health and Disease</p>	<p>Spring, even years BIO 141: General Biology I BIO 142³: General Biology II <i>BIO 151²: Human Anatomy and Physiology I</i> <i>BIO 152^{2,3}: Human Anatomy and Physiology II</i> BIO 210: Research Methods I BIO 223: Ecology BIO 295: Responsible Conduct in Research BIO 342: Animal Physiology BIO 352: Plant Physiology Bio 361: Bioinformatics BIO 398: Junior Biology Seminar II BIO/MBI 465/466: Special Topics without lab BIO 498: Senior Biology Seminar II MSC 111: Open Water Scientific Diving MSC 211: Research Diving MSC 239: Oceanography</p>

BIO/MBI 495 & 496 may be taken in any semester or session as long all the appropriate arrangements are completed *at least 30 days in advance* of the start of classes.

<u>course#</u>	<u>course title</u>	<u>when taught</u>
MAT 143	pre-calculus algebra	fall, spring, summer
MAT 142	college trigonometry	fall, spring, summer
MAT 235	statistics	Fall361, spring
CHEM 151	general chemistry I	every fall
CHEM 152	general chemistry II	every spring
PHYS 211	intro to physics I	every fall
PHYS 212	intro to physics II	every spring
PHYS 241	general physics I	every spring
PHYS 242	general physics II	every fall
MATH 241	intro to calculus/analytical geometry I	fall, summer
MATH 242	intro to calculus/analytical geometry II	spring, summer
CHEM 253	organic chemistry I	every fall
CHEM 254	organic chemistry II	every spring
CHEM 348	biochemistry	When possible

¹ Course offerings are subject to change.

² This course is intended for nursing majors and may not be taken for degree credit by biology majors.

³ Also offered in the summer session.

⁴ SCI 305 is required for the health sciences minor, but does not count as a science elective towards a BIO or MBI degree.

Frequently Asked Questions:

What's the difference between a BA and a BS degree?

A student pursuing a BA degree takes more humanities courses than a student pursuing a BS degree. Conversely a student pursuing a BS degree takes more science courses than a student pursuing a BA degree. Most students in the biology/marine biology programs pursue a BS, as they like to take science courses.

What classes fulfill the Humanities requirements for BS majors?

ART, ENG (English, 120 and higher), FRE (French), HUM (humanities), JAP (Japanese), JOU (journalism), MUS (music), MUE?, PHI (philosophy), SPA (Spanish), SPE (speech) THE (theatre),

What courses fulfill the Social Science requirements?

ANT (anthropology), ECO (economics), GOG (geography), HIS (history), POL (political science), PSY (psychology), SSC (social science)?, SWK?, SOC (sociology),
? not listed under BA degree

What courses can I take if I have not completed MAT023 and MAT 024?

ANT, ART, COM, CSC111, ENG, FRE, FDS, SCI100, SSC100, GOG, HIS, HUM, JAP, MSC111, MUS, PLS, PED, POL, PSY, SCI210? SSC100/113/154, SOC, SPA, THE

What courses can I take if I have not completed ENG 100 WAC/ENG 101 RCA021?

ANT, ART, CSC, ECO, ENG108?, FRE, FDS, SCI100 (ENG/WAC/RCA as co-req), SSC100 (ENG/WAC/RCA as co-req), GOG, HIS (except 181/182), JAP, MUS, MUE?, NSC104, PED, SCI210, SSC154, SOC121, SWK, SPA, THE

What course can I take if I have not completed MAT023, MAT 024 and ENG/WAC/RCA?

ANT, ART, CSC111, FRE, FDS, SCI100, SSC100, GOG, HIS (except 181/2), JAP, MSC111, MUS, MUE, PED, SCI210, SSC154, SOC121, SPA, THE

What do I take if I'm interested in a medical career?

Check out <http://www.uvi.edu/academics/science-math/departments/bio-sciences/pre-med/default.aspx> for information about health careers, and talk to Dr Romano, UVI's pre-health careers advisor.

What courses are taught in the summer?

Bio142, Bio495, Bio496, other courses when possible.

The following provides a quick summary of pre-requisites of the biology and marine biology classes. For complete details, consult the catalog.

Pre-requisites

course	pre-req
BIO141	ENG101/RCA or SAT, MAT140or143coreq
BIO142	BIO141
BIO 210	BIO 245, CHE 151
BIO/MBI220	BIO142
MBI222	BIO142
BIO223	BIO142
BIO224	not taught recently
BIO245	BIO142 and college Math
BIO261-2	does not count towards bio degree
BIO295	one introductory science class
BIO301	does not count towards bio degree
BIO 310	BIO 210, CHE 253, BIO 360
BIO339	BIO142
BIO342	BIO/MBI220, MBI222, BIO339
BIO349	BIO142
BIO350	BIO142
BIO352	BIO223 and CHE152
BIO353	not taught often
BIO355	BIO245 and CHE254
BIO356	BIO355, BIO245 and CHE254
BIO370	BIO245
BIO/MBI397	junior biology major; submitted graduation plan
BIO/MBI398	BIO/MBI397
MBI424	BIO223 and one of: BIO/MBI220, MSC239, MBI 222, BIO/MBI349
BIO/MBI430	BIO223 and one of: BIO/MBI220, MBI 222, BIO/MBI349
BIO460	not taught often
BIO465,6	announced with each course, often just BIO142
BIO/MBI495	20 science credits and min 2.5GPA, BIO295coreq
BIO/MBI496	20 science credits and min 2.5GPA, BIO295coreq
BIO497,8	BIO/MBI397&398
SCI 497	BIO (or MBI) 397-398
MSC111	Science or math major
MSC211	BIO142, MSC111 or certification
MSC239	BIO142

Study Plan (page 2): Yearly Plan

Name: _____

Advisor's Name: _____

Expected Date of Graduation: _____

Biology Degree Sought (BA or BS): _____

FIRST YEAR (or transferred credits)			
<i>Fall</i>		<i>Spring</i>	
	credits		credits
Credits this semester		Credits this semester	
<i>Summer</i>			
		Credits this year	
		Total credits to date	

SECOND YEAR			
<i>Fall</i>		<i>Spring</i>	
	credits		credits
Credits this semester		Credits this semester	
<i>Summer</i>			
		Credits this year	
		Total credits to date	

THIRD YEAR			
<i>Fall</i>		<i>Spring</i>	
	credits		credits
Credits this semester		Credits this semester	
<i>Summer</i>			
		Credits this year	
		Total credits to date	

FOURTH YEAR			
<i>Fall</i>		<i>Spring</i>	
	credits		credits
Credits this semester		Credits this semester	
<i>Summer</i>			
		Credits this year	
		Total credits to date	

FIFTH YEAR			
<i>Fall</i>		<i>Spring</i>	
	credits		credits
Credits this semester		Credits this semester	
<i>Summer</i>			
		Credits this year	
		Total credits at graduation	

The EPE will be taken: _____ (give semester & year)

Credits this year

The CLE will be taken: _____ (give semester & year)

Total credits at graduation

Submission Date: _____

Approval Date (Official Use Only): _____

Student guidelines for BIO 495: Directed Independent Research

Course description (from UVI catalog): Provides an opportunity for students, under the guidance of a faculty supervisor, to pursue scholarly research or studies in areas associated with their academic fields but outside of prescribed courses. Student and the prospective supervisor should develop and submit, for approval, a proposal to the Division Chair at least one month prior to the start of the course. For each hour of academic credit to be awarded, the student must have three hours of lab or study per week and one hour of consultation per week with the supervisor. Student may register for repeated enrollment in this course up to the maximum of six credits. Proposals must also include an evaluation plan.

Prerequisite: Students must have completed at least 20 credits in some combination of BIO, MBI, CHE, PHY, CSC, and MAT with a minimum grade point average of 2.5.

Corequisite: BIO 295

Summary of course requirements:

- I. Prior to enrolling in this course, the student must
 - A. With the help of a faculty mentor, choose an appropriate question or problem for which hypotheses can be generated and tested.
 - B. Write a 1-page research proposal describing the research project. This proposal must be signed by both the student and the mentor, and *the signed proposal must be submitted to the biology coordinator at least 30 days in advance of the term or semester of enrollment.*
- II. During the course of research, the student must
 - A. Conduct at least 45 documented hours of laboratory or field research per credit hour under the mentor's supervision.
 - B. Keep a detailed, neat, and accurate research notebook.
- III. At the conclusion of each term or semester of research, the student must write a report. The report must be submitted to the mentor no later than the final day of classes for the term or semester of enrollment. Reports on field and laboratory research must include:
 - A. A Title that describes the findings of the research.
 - B. An Abstract that briefly summarizes the Introduction, Materials and Methods, Results, and Discussion sections of the report.
 - C. An Introduction that describes the importance, background information, objectives, and hypothesis or question(s) being answered by this research.
 - D. A Materials and Methods that describes or cites all procedures used to carry out the project in enough detail for the experiment to be reproduced by the reader.
 - E. A Results that includes
 1. A written summary of the data produced during the research (which makes specific reference to the tables and figures) and
 2. Appropriate tables and figures (graphs, diagrams, charts, photographs, etc.), which should be referred to in the text.
 - F. A Discussion that interprets the results and explains their significance.
 - G. An Acknowledgements section thanking the people who assisted with the research and the preparation of the report.
 - H. A Works Cited that cites all journal articles, technical reports, books, unpublished materials, and other references used during the research and while writing the paper.
- IV. UVI students are expected to give poster presentations of their research.
- V. At the conclusion of the semester the mentor must submit a final grade and a copy of the student's report to the biology coordinator no later than the last day of finals for the term or semester.

Student guidelines for BIO 496: Internship/Field Studies

Course description (from UVI catalog): Provides an opportunity for students to earn academic credits for activities conducted outside of the University. Field studies, internships, summer research programs and career-related employment activities can qualify for credit under this course. Written proposals for such work must be developed by the student and the prospective field employment supervisor and submitted to a divisional committee. Proposals must be submitted at least one month prior to the start of the course. The amount of academic credit to be earned will be determined by the committee based on the duration of academic credit to be earned will be determined, by the committee based on the duration and quality of the experience, with a maximum of four credits through repeated enrollment.

Prerequisite: Students must have completed at least 20 credits in some combination of biology courses with a minimum grade point average of 2.5.

Corequisite: BIO 295

Summary of course requirements:

- I. Prior to enrolling in this course, the student must, with the help of the prospective supervisor, write a 1-page research proposal describing the research project. This proposal must be signed by both the student and the mentor, and *the signed proposal must be submitted to the biology coordinator at least 30 days in advance of the term or semester of enrollment.*
- II. During the course of the project, the student must
 - A. Conduct at least 45 hours of internship or field work per credit hour with the supervisor's guidance.
 - B. Submit brief, detailed, and accurate weekly reports to an on-campus advisor appointed by the biology coordinator. Email submission is preferred. Each week's report should address issues raised by the advisor in response to the previous report.
- III. At the conclusion of each term or semester of research, the student must write a report. The report must be submitted to the mentor no later than the final day of classes for the term or semester of enrollment. The report must include:
 - A. A Title that describes the internship or the findings of the research or field work.
 - B. An Abstract that briefly summarizes the sections of the report.
 - C. An Introduction that describes the importance, background information, objectives, and hypothesis or question(s) (if applicable) of the project.
 - D. A Materials and Methods that describes or cites all procedures learned during the internship and/or used to carry out the project.
 - E. If applicable, Results that includes
 1. A written summary of the data produced during the research (which makes specific reference to the tables and figures) and
 2. Appropriate tables and figures (graphs, diagrams, charts, photographs, etc.), which should be referred to in the text.
 - F. A Discussion that interprets the project and (if applicable) its results and explains the significance of the project or results.
 - G. An Acknowledgements section thanking the people who assisted with the research and the preparation of the report.
 - H. A Works Cited that cites all journal articles, technical reports, books, unpublished materials, and other references used during the project or research and while writing the paper.
- IV. UVI students are expected to give poster presentations of their research.
- VI. At the conclusion of the semester:
 - A. The on-site project supervisor must submit a report evaluating the student's performance (the supervisor may recommend a grade) to the on-campus advisor no later the last day of classes for the term or semester.
 - B. The on-campus advisor must submit a final grade and a copy of the student's report to the biology coordinator no later than the last day of finals for the term or semester.

Study Guide for Comprehensive Examinations

Students seeking a BS degree in Biology or Marine Biology are required to pass a comprehensive exam during their senior year before they can graduate. An oral comprehensive exam is normally given the first weekend of the spring semester. Students wishing to graduate must sign up with the biology coordinator in November of the previous calendar year.

The comprehensive exam is given in a one-hour time slot. A committee of several biology/marine biology faculty members asks each student questions covering any material from courses in biology and marine biology that the student has taken. Generally the committee begins with questions about basic biology, such as the material covered in general biology (BIO 141-142). The committee looks for a breadth of student knowledge in many of these early questions. Later faculty may probe the student with more and more difficult questions to establish the student's depth of knowledge, particularly in subject matter from the student's upper-level biology/marine biology courses. Approximately 45-50 minutes of that time is spent in this question/answer period.

The student is then asked to leave the testing room while the faculty members discuss the level of performance of the student. One of four possible levels is assigned:

- 1) **High Pass:** the student has demonstrated outstanding depth and breadth of knowledge. This level is rarely assigned, but if it is assigned, the High Pass is placed on the student's transcript.
- 2) **Pass:** the student has demonstrated good breadth and depth of knowledge.
- 3) **Low Pass:** the student has demonstrated acceptable breadth and depth of knowledge, but certain areas are of concern. Levels of "Pass" and "Low Pass" do not specifically appear on the student transcript; instead, the transcript says the student has completed the comprehensive exam.
- 4) **No Pass:** the student has not demonstrated acceptable breadth and depth of knowledge. The student will be given an opportunity to pass a written exam, usually scheduled after spring break. The biology program coordinator will schedule this written exam at a time mutually convenient for the student and coordinator. A similar format to the oral exam is used. Multiple faculty members design written questions to assess the student's depth and breadth of knowledge in biology.

How you will be graded. You will receive a grade (of high pass, pass, low pass, or fail as described above) based on the following four categories

- a) **Breadth of knowledge.** You should have general knowledge and understanding of basic biological concepts in animal form/function, cell biology, ecology, evolution, genetics, molecular biology, taxonomy, and plant form/function. You must demonstrate a breadth of knowledge in order to pass the exam.
- b) **Depth of knowledge.** Significant depth of knowledge in several categories may be grounds for assigning a final grade of *high pass*.
- c) **Quantitative skills.** You should have general knowledge of basic statistics, calculations for chemical solutions, and other quantitative skills appropriate to your area of study.
- d) **Knowledge and application scientific inquiry.** You should be able to design and analyze scientific research.

How to study. Studying for the comprehensive exam is something that starts with the first class you take at UVI. It is important that you READ and become very familiar with your textbooks as references—in the last months of studying for the comprehensive exam you can use the chapter summaries as a good review. As exam time approaches, you should review the relevant topics in your general biology textbook. Start well in advance, make a plan, and stick to it. It is highly recommended that you form a study group and practice for the exam by explaining major concepts to each other. Also, you should get a good night's sleep the last couple of nights before your exam -- it does make a difference

What to study. Your exam will cover the breadth of biological concepts and quantitative skills covered by the core curriculum as well as major concepts from the science electives you have taken.

BS Biology Checklist
 Matriculation Date _____

Student _____
 Graduation Date _____

GE Requirements

EPE (date _____) CLE (date _____)
 SSC 100 SCI 100
 FDS PE or PLS (check all four)

Humanities 18cr (ART, ENG, FRE, HUM, JAP, JOU, MUS, PHI, SPA, SPE, THE)

COURSE	Cr	<input checked="" type="checkbox"/>	COURSE	Cr	<input checked="" type="checkbox"/>
ENG 120	3		ENG 201	3	

Social Science 9-12cr (SSC, ANT, GOG, HIS, POL, PSY, SOC)

COURSE	Cr	<input checked="" type="checkbox"/>	COURSE	Cr	<input checked="" type="checkbox"/>
SSC 100	3				

Biology Requirements

COURSE	Cr	<input checked="" type="checkbox"/>	COURSE	Cr	<input checked="" type="checkbox"/>
BIO 141	4		BIO 142	4	
CHE 151	5		CHE 152	5	
BIO 245	4		BIO 223	4	
CHE 253	5		CHE 254	5	
MAT 241	4		MAT 242	4	
BIO 360	4				
PHY 211 or PHY 241	4		PHY 212 or PHY 242	4	
BIO 397	1		BIO 398	1	
BIO 497	1		BIO 498	1	

Biology Electives 30cr = any non-required 200 level or higher courses in BIO, MAT, CHE, PHY, CCS, MBI, MSC as well as SCI100 (if taken as a freshman), MSC111, CSC 117, CSC 118, but excludes BIO 261, 262, 301 and MAT 232.

COURSE	Cr	<input checked="" type="checkbox"/>	COURSE	Cr	<input checked="" type="checkbox"/>

Animal course

Plant course

BS Biology Checklist
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 Graduation Date _____

GE Requirements

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Animal course

Plant course