## Marine Biology



at UVI

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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.

**Marine Biology Major**

The requirements for a Bachelor of Arts Degree in Marine Biology consist of the following Biology, Marine Biology and related courses plus a study plan written by each candidate and their 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. Any change in the study plan must be approved by the advisor and the program prior to course registration.

A. Required courses in Freshman Studies (required for anyone admitted into the program with fewer than 24 credits): **Credits**

SCI 100 The Natural World: The Caribbean 3

SSC 100 An Introduction to the Social Sciences:

 A Caribbean Focus 3

FDS 100 Freshman Development Seminar 1

B. Required Courses in Biology and Marine Biology (45 credit hours): **Credits**

BIO 141-142 General Biology I-II 4-4

MBI 220 Marine Invertebrate Zoology 5

MBI 222 Ichthyology 4

BIO 223 Ecology 4

MSC 239 Oceanography 4

BIO 245 Genetics 4

BIO 349 Aquatic Plant Biology 4

BIO 360\* Cell and Molecular Biology I 4

BIO 397-398 Junior Science Seminar 1-1

MBI 424 Marine Ecology 4

MBI 497 Senior Science Seminar I 1

SCI 497 or MBI 498 Interdisciplinary Sr Sem or Sr Sem II 1

C. Required Courses in Related Fields (22-24 credit hours): **Credits**

CHE 151-152 General Chemistry I-II 5-5

MAT 241 Introduction to Calculus and Analytical Geometry I 4

or

MAT 235 Introductory Statistics with Applications 4

PHY 211-212 Introduction to Physics I-II 4-4

or

PHY 241-242 General Physics 5-5

or

PHY 241-212 General Physics I , Introduction to Physics II 5-4

D. In addition to the courses not chosen to fulfill the requirement in Section B, the following are strongly recommended for students intending to pursue graduate studies: **Credits**

Mathematics 241-242 Introduction to Calculus and Analytical Geometry I-II 4-4

Chemistry 253-254 Organic Chemistry I-II 5-5

\*Students matriculating before 2002 may substitute BIO 346 for BIO 360

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

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

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 6-9

E. SOCIAL SCIENCES 6-9

SSC 100\* An Introduction to the Social Sciences: A Caribbean Focus 3

and

Two other course 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)

|  |  |  |  |
| --- | --- | --- | --- |
| MARINE BIOLOGY MAJOR BA DEGREE |  |  |  |
| **FRESHMAN YEAR (odd)** |  |  |  |  |  |
| *Fall* |  |  | *Spring* |  |  |
| FDS | 1 |  | SSSC 100 (SOCgen ed) | 3 |  |
| SCI 100 (SCIgen ed) | 3 |  | PLS (PEgen ed) | 2 |  |
| BIO 141 (Intro) (A) | 4 |  | BIO 142 (Intro) (A) | 4 |  |
| CHE 151 (C) | 5 |  | CHE 152 (C) | 5 |  |
| MAT 143 (C) | 4 |  | MAT 153 (C) | 4 |  |
|  | 17 |  |  | 18 |  |
| **SOPHOMORE YEAR (even)** |  |  |  |  |  |
| *Fall* |  |  | *Spring* |  |  |
| MAT 241or235 (calc or stats) | 4 |  | MSC 239 (Oceanog) A | 4 |  |
| BIO 245 (genetics) (A) | 4 |  | BIO 223 (ecology) (A) | 4 |  |
| SPA/FRE 131 (HUMgen ed) | 3 |  | SPA/FRE 132 (HUMgen ed) | 3 |  |
| BIO 349 (aquatic plant) | 4 |  | MSC 111 (diving) D | 1 |  |
| COM 119 (HUMgen ed) | 3 |  | COM 120 (HUMgen ed) | 3 |  |
|  | 18 |  |  | 15 |  |
|  |  |  |  |  |  |
| **JUNIOR YEAR (odd)** |  |  |  |  |  |
| *Fall* |  |  | *Spring* |  |  |
| BIO 397 (JSS)  | 0.5 |  | BIO 398 (JSS)  | 0.5 |  |
| PHY 211 (physics) | 4 |  | PHY 212 (physics) | 4 |  |
| BIO 360 (molec) A | 4 |  | SOC elective (SOC gen ed) | 3 |  |
| SPA/FRE 231 (HUMgen ed) | 3 |  | ENG 201 (HUMgen ed) | 3 |  |
| MBI 222 (ich) | 4 |  | HUM 115 (HUMgen ed) | 3 |  |
| ENG 120 (HUMgen ed) | 3 |  | MSC 211 (res diving) | 2 |  |
|  | 17.5 |  |  | 16.5 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **SENIOR YEAR (even)** |  |  |  |  |  |
| *Fall* |  |  | *Spring* |  |  |
| MBI 497 (SSS) | 1 |  | SCI 497 or MBI 498 (SSS) | 1 |  |
| MBI 220 (invert) B | 5 |  | MBI 424 (Marine Ecol) | 4 |  |
| ENG 201 (HUMgen ed) | 3 |  | PHI 200 (HUMgen ed) | 3 |  |
| ENG 261 (HUMgen ed) | 3 |  | ENG 262 (HUMgen ed) | 3 |  |
| SOC Elective (SOCgen ed) | 3 |  |  | 2 |  |
|  | 15 |  |  | 4 |  |
|  |  |  |  | 17 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | elective | required |  | total |  |
| Humanities | 8 | 12 | COM 101/102/201, HUM115 | 38 |  |
|  |  | 12 | FRE/SPA 131/132/231, SPE115 |  |  |
|  |  | 6 | ENG261/262 |  |  |
| Social Science | 9 | 3 | SSC100 | 12 |  |
| PE | 0 | 2 | PLS | 2 |  |
|  |  |  |  |  |  |
| problems: does not include recommended calculus (though this could replace recommended organic chem) |

**Marine Biology Major**

The requirements for a Bachelor of Science Degree in Marine Biology consist of the following Biology, Marine Biology and related courses plus a study plan written by each candidate and their 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 course should be completed. Any change in the study plan must be approved by the advisor and the program prior to course registration. In addition to fulfilling the General Education requirements for a Bachelor of Science degree, students must pass a Science Comprehensive Examination following completion of formal academic coursework and prior to graduation.

A. Required courses in Freshman Studies (required for anyone admitted into the program with fewer than 24 credits): **Credits**

SCI 100 The Natural World: The Caribbean 3

SSC 100 An Introduction to the Social Sciences:

 A Caribbean Focus 3

FDS 100 Freshman Development Seminar 1

1. Required Courses in Biology and Marine Biology (45 credit hours): **Credits**

BIO 141-142 General Biology I-II 4-4

MBI 220 Marine Invertebrate Zoology 5

MBI 222 Ichthyology 4

BIO 223 Ecology 4

BIO 245 Genetics 4

MSC 239 Oceanography 4

BIO 349 Aquatic Plant Biology 4

BIO 360\* Cell and Molecular Biology I 4

BIO/MBI 397-398 Junior Science Seminar 1-1

MBI 424 Marine Ecology 4

MBI 497 Senior Science Seminar I 1

SCI 497 or MBI 498 Interdisciplinary Sr Sem or Sr Sem II 1

C. Required Courses in Related Fields (30-32 credit hours): **Credits**

CHE 151-152 General Chemistry 5-5

MAT 241-242 Introduction to Calculus and Analytical 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

MAT 235 Statistics 4

1. Science Electives: An additional 15 credit hours minimum are required from the following:

 **Credits**

BIO 224 Population Biology 4

BIO 295 Responsible Conduct in Research 1

BIO 339 Vertebrate Structure 5

BIO 342 Animal Physiology 4

BIO 350 Terrestrial Plant Biology 4

BIO 352 Plant Physiology 4

BIO 353 Developmental Biology 4

BIO 355-356 Biology of Microorganisms I-II 4-4

BIO 370 Evolution 3

BIO 430 Coral Reef Biology 4

BIO 460\*\* Cell and Molecular Biology II 4

BIO 465, 466 Selected Topics in Biology 4

BIO 495 Directed Independent Research (maximum 6 credits) 1 to 6

BIO 496 Internship/Field Studies (maximum 4 credits) 1 to 4

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 CSC 111 or CSC 119

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

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

 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

While no Humanities courses are specifically mentioned, ENG201 is a pre-requisite for the EPE (unless special permission is obtained from the Chancellor), and ENG120 is a pre-requisite for ENG201. So plan to take ENG 120 and ENG201 to fulfill part of the Humanities requirements.

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 course in the Social Sciences:

Anthropology, Economics, Geography, History, Political Science, Psychology, or Sociology

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

 \*\* A student exempted from College Algebra with Applications or Precalculus Algebra by a qualifying examination must take one semester of a more advanced mathematics course.

II. SUMMARY

Freshman Development Seminar 0-1

Humanities 18

Mathematics and Science 16

Social Sciences 12

 TOTAL 46-47 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 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.

Additionally, students must successfully pass the following examinations:

1. English proficiency examination (EPE)

2) Computer Literacy Examination (CLE)

|  |  |  |  |
| --- | --- | --- | --- |
| MARINE BIOLOGY MAJOR BS DEGREE |  |  |  |
| **FRESHMAN YEAR (odd)** |  |  |  |  |
| *Fall* |  |  | *Spring* |  |
| FDS (gen ed) | 1 |  | SSC 100 (gen ed) | 3 |
| SCI 100 (gen ed) | 3 |  | PLS (gen ed) | 2 |
| BIO 141(Intro) (A) | 4 |  | BIO 142 (Intro) (A) | 4 |
| CHE 151 (C) | 5 |  | CHE 152 (C) | 5 |
| MAT 143 (C) | 4 |  | MAT 153 (C) | 4 |
|  | 17 |  |  | 18 |
| **SOPHOMORE YEAR (even)** |  |  |  |  |
| *Fall* |  |  | *Spring* |  |
| gen ed  | 3 |  | gen ed | 3 |
| **BIO 245 (genetics) (A)** | **4** |  | **BIO 223 (ecology) (A)** | **4** |
| MAT 241 (calculus) (C) | 4 |  | MAT 242 (calculus) (C) | 4 |
| ENG 120 | 3 |  | ENG 201 (gen ed) | 3 |
| MSC 111 (diving) | 1 |  | MSC 211 (res diving) | 2 |
|  | 15 |  |  | 16 |
|  |  |  |  |  |
| **JUNIOR YEAR (odd)** |  |  |  |  |
| *Fall* |  |  | *Spring* |  |
| **BIO 397 (JSS) (A)** | **0.5** |  | **BIO 398 (JSS) (A)** | **0.5** |
| gen ed | 3 |  | gen ed | 3 |
| **MBI 222 (ichthy) (B)** | **4** |  | **BIO 349 (aq plant) (A)** | **4** |
| BIO 370 (evol) or 495 (dir ind) (B) | 4 |  | **PHY 212 (C)** | **4** |
| **PHY 211 (C)** | **4** |  | BIO 465/6 (sel topics) (B) | 4 |
| CSC 239 (sci computers) (C) | 3 |  | ENG 300 (gen ed)  | 2 |
|  | 18.5 |  |  | 17.5 |
|  |  |  |  |  |
|  |  |  |  |  |
| **SENIOR YEAR (even)** |  |  |  |  |
| *Fall* |  |  | *Spring* |  |
| **MBI 497 (SSS) (A)** | **1** |  | **SCI 497 or MBI 498 (SSS) (A)** | **1** |
| BIO 339(vert), 353 (devo), 421 (cell), | 4 |  | gen ed | 3 |
| BIO 242(pop) or 495 (dir ind) (B) |  |  | BIO 342 or 352 (**physiol**) (A) | 4 |
| **MSC 239 (Oceanog) (A)** | **3** |  | **MBI 424 (Marine Ecol) (A)** | **4** |
| gen ed | 3 |  | MAT 235 (stats) (C) | 4 |
| **MBI 220 (invert) (A)** | **5** |  |  | 16 |
|  | 16 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| gen ed | remaining |  | gen ed already in schedule | total |
| Humanities | 9 | 9 | ENG 120, 201 & 300 | 18 |
| Social science | 9 | 3 | SSC100 | 12 |
| Physical ed  | 0 | 2 | PLS | 2 |
|  |  |  |  |  |
| problems: does not include highly recommended Organic Chem 253/4 |  |
|  no marine bio in 1st 2 years |  |  |  |

Elective courses you may wish to consider: CHE 251, CHE 252, CHE 348, CSC 117, CSC 118, CSC 119, CSC 239, CSC 361, MSC 111, MSC 211, MAT 332, MAT 261, MAT 361, MAT 344 & MAT 352

**Planned Course Offerings[[1]](#footnote-1) in Biology and Marine Biology**

|  |  |
| --- | --- |
| **Fall, even years****BIO 141: General Biology I***BIO 151[[2]](#footnote-2): Human Anatomy and Physiology I***BIO 245: Principles of Genetics**BIO 295: Responsible Conduct in Research*BIO 2402: Microbiology* BIO 339: Vertebrate StructureBIO 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 & PolicyMBI 220: Marine Invertebrate ZoologyMSC 111: Open Water Scientific Diving | Spring, odd years**BIO 141: General Biology I****BIO 142[[3]](#footnote-3): General Biology II***BIO 1512: Human Anatomy and Physiology I**BIO 1522,3: Human Anatomy and Physiology II*BIO 210: Research Methods I**BIO 223: Ecology**BIO 295: Responsible Conduct in ResearchBIO 342: Animal PhysiologyBIO 350: Terrestrial Plant BiologyBio 355: MicrobiologyBio 361: Bioinformatics**BIO/MBI 398: Junior Biology Seminar II****BIO/MBI 498: Senior Biology Seminar II**MBI 424: Marine EcologyMSC 111: Open Water Scientific DivingMSC 211: Research Diving |
| Fall, odd years**BIO 141: General Biology I***BIO 151*2*: Human Anatomy and Physiology I***BIO 245: Principles of Genetics***BIO 2402: Microbiology* **BIO 360: Cell and Molecular Biology I**BIO 370: Evolution**BIO 397: Junior Science Seminar I**BIO/MBI 430 Coral Reef BiologyBIO/ MBI 465/466 Special Topics with lab**BIO 497: Senior Science Seminar I**MBI 222: IchthyologyMSC 111: Open Water Scientific DivingSCI 305[[4]](#footnote-4): Biology of Health and Disease | Spring, even years**BIO 141: General Biology I****BIO 142**3**: General Biology II***BIO 1512: Human Anatomy and Physiology I**BIO 1522,3: Human Anatomy and Physiology II*BIO 210: Research Methods I**BIO 223: Ecology**BIO 295: Responsible Conduct in ResearchBIO 342: Animal PhysiologyBIO 352: Plant Physiology**BIO 398: Junior Biology Seminar II**BIO/MBI 465/466: Special Topics without lab**BIO 498: Senior Biology Seminar II**ENV 365: Topics in Environmental ScienceMSC 111: Open Water Scientific DivingMSC 211: Research DivingMSC 239: Oceanography |

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.

|  |  |  |
| --- | --- | --- |
| **course#** | **course title** | **when taught** |
| 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 |

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://faculty.uvi.edu/users/sromano/prehealth> 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 |
| MBI 497,8 | BIO/MBI397&398 |
| SCI 497 | MBI (or BIO) 397-398 |
| MSC111 | Science or math major |
| MSC211 | BIO142, MSC111 or certification |
| MSC239 | BIO142 |

## Student guidelines for BIO/MBI 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:*

1. Prior to enrolling in this course, the student must
	1. With the help of a faculty mentor, choose an appropriate question or problem for which hypotheses can be generated and tested.
	2. 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*.
2. During the course of research, the student must
	1. Conduct at least 45 documented hours of laboratory or field research per credit hour under the mentor’s supervision.
	2. Keep a detailed, neat, and accurate research notebook.
3. 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:
	1. A Title that describes the findings of the research.
	2. An Abstract that briefly summarizes the Introduction, Materials and Methods, Results, and Discussion sections of the report.
	3. An Introduction that describes the importance, background information, objectives, and hypothesis or question(s) being answered by this research.
	4. 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.
	5. 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.
	6. A Discussion that interprets the results and explains their significance.
	7. An Acknowledgements section thanking the people who assisted with the research and the preparation of the report.
	8. 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.
4. UVI students are expected to give poster presentations of their research.
5. 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/MBI 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 deter-mined, 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:*

1. 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*.
2. During the course of the project, the student must
	1. Conduct at least 45 hours of internship or field work per credit hour with the supervisor’s guidance.
	2. 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.
3. 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:
	1. A Title that describes the internship or the findings of the research or field work.
	2. An Abstract that briefly summarizes the sections of the report.
	3. An Introduction that describes the importance, background information, objectives, and hypothesis or question(s) (if applicable) of the project.
	4. A Materials and Methods that describes or cites all procedures learned during the internship and/or used to carry out the project.
	5. 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.
	6. A Discussion that interprets the project and (if applicable) its results and explains the significance of the project or results.
	7. An Acknowledgements section thanking the people who assisted with the research and the preparation of the report.
	8. 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.
4. UVI students are expected to give poster presentations of their research.
5. At the conclusion of the semester:
	1. 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.
	2. 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 by 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

* + - * 1. 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.
				2. Depth of knowledge**.** Significant depth of knowledge in several categories may be grounds for assigning a final grade of *high pass*.
				3. Quantitative skills**.** You should have general knowledge of basic statistics, calculations for chemical solutions, and other quantitative skills appropriate to your area of study.
				4. 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 Marine Biology Checklist

Student \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 | 🗹 | COURSE | Cr | 🗹 |
| ENG 120 | 3 |  | ENG 201 | 3 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COURSE | Cr | 🗹 | COURSE | Cr | 🗹 |
| SSC 100 | 3 |  |  |  |  |
|  |  |  |  |  |  |

Science and Math Course Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COURSE | Cr | 🗹 | COURSE | Cr | 🗹 |
| BIO 141 | 4 |  | BIO 142 | 4 |  |
| CHE 151 | 5 |  | CHE 152 | 5 |  |
| BIO 245 | 4 |  | BIO 223 | 4 |  |
| MAT 241  | 4 |  | MAT 242 | 4 |  |
| MAT 235 | 4 |  |  |  |  |
| BIO 360 | 4 |  | BIO 349 | 4 |  |
| PHY 211 or PHY 241 | 4 |  | PHY 212 or PHY 242 | 4 |  |
| MBI 220 | 5 |  | MBI 222 | 4 |  |
| MSC 239 | 4 |  | MBI 424 | 4 |  |
| BIO/MBI 397 | 1 |  | BIO/MBI 398 | 1 |  |
| BIO/MBI 497 | 1 |  | BIO/MBI 498 | 1 |  |

Biology Electives 15cr = 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 + 118, excluding BIO 261, 262, 301 and MAT 232.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COURSE | Cr | 🗹 | COURSE | Cr | 🗹 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
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|  |  |  |  |  |  |

BA Marine Biology Checklist Student \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Matriculation Date \_\_\_\_\_\_\_\_ Graduation Date \_\_\_\_\_\_\_\_\_

GE Requirements

EPE (date \_\_\_\_\_\_\_\_\_\_\_\_) **⁯** CLE (date \_\_\_\_\_\_\_\_\_\_\_\_\_ ) **⁯**

SSC 100 **⁯** SCI 100 **⁯**

FDS **⁯** PE or PLS (check all four) **⁯ ⁯ ⁯ ⁯**

Humanities 36cr (ART, ENG, FRE, HUM, JAP, JOU, MUS, PHI, SPA, SPE, THE)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COURSE | Cr | 🗹 | COURSE | Cr | 🗹 |
| COM 119 | 3 |  | COM120 | 3 |  |
| ENG 120 | 3 |  | ENG 201 | 3 |  |
| ENG 261 | 3 |  | ENG 262 | 3 |  |
| SPA or FRE 131 | 4 |  | SPA or FRE 132 | 4 |  |
| SPA or FRE 231 | 4 |  | HUM 115 | 3 |  |
| PHI 200 | 3 |  |  |  |  |

Social Science 6-9cr (SSC, ANT, GOG, HIS, POL, PSY, SOC)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COURSE | Cr | 🗹 | COURSE | Cr | 🗹 |
| SSC 100 | 3 |  |  |  |  |
|  |  |  |  |  |  |

Math Requirements 6-8cr

Note: Incoming students with advanced preparation beyond MAT153 require a minimum of 6 credits of higher level math courses

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COURSE | Cr | 🗹 | COURSE | Cr | 🗹 |
| MAT 140 or 143 | 4 |  | MAT 153 (Previously MAT142) | 4 |  |
| MAT 241 or MAT 235 | 4 |  |  |  |  |

Biology, Chemistry, Math and Physics Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COURSE | Cr | 🗹 | COURSE | Cr | 🗹 |
| BIO 141 | 4 |  | BIO 142 | 4 |  |
| CHE 151 | 5 |  | CHE 152 | 5 |  |
| BIO 245 | 4 |  | BIO 223 | 4 |  |
| PHY 211 or PHY 241 |  |  | PHY 212 or PHY 242\* |  |  |
| BIO 360 | 4 |  | BIO349 | 4 |  |
| MBI 220 | 5 |  | MBI 222 | 4 |  |
| MSC 239 | 4 |  | MBI 424 | 4 |  |
| BIO 397 | 1 |  | BIO 398 | 1 |  |
| BIO 497 | 1 |  | BIO 498 | 1 |  |

\* PHY241 can serve as prerequisite for PHY212 or PHY242, but PHY211 cannot serve as PHY242 prerequisite

1. Course offerings are subject to change. [↑](#footnote-ref-1)
2. This course is intended for nursing majors and may not be taken for degree credit by biology majors. [↑](#footnote-ref-2)
3. Also offered in the summer session. [↑](#footnote-ref-3)
4. SCI 305 is required for the health sciences minor, but does not count as a science elective towards a BIO or MBI degree. [↑](#footnote-ref-4)