



ENVIRONMENTAL SCIENCE, BACHELOR OF SCIENCE - BIOSECURITY

Program Code: S600A

Career Pathway: Science, Technology, Engineering, and Math

Location(s): Most courses for this program are offered at all BC locations. Specialized courses are offered at Central Campus. (<https://www.broward.edu/about/locations/>)

Program Entrance Requirements Tracks A, B, C, D: Entry requires completion of an AA/AS degree or transfer of 60+ credits (including general education) from another accredited institution. Applicants must have:

- A cumulative grade point average of 2.5 on a 4.0 scale
- Submit a letter of recommendation
- Submit all transcripts from previous institutions
- Be approved by the Environmental Science department
- Completed the following courses with a C or higher:

| Course | Title | Credits |
|------------------------------|--|-----------|
| BSC2010 | INTRODUCTION TO BIOLOGY I | 3.00 |
| BSC2010L | INTRODUCTION TO BIOLOGY I LABORATORY | 1.00 |
| CHM1045 | GENERAL CHEMISTRY I | 3.00 |
| CHM1045L | GENERAL CHEMISTRY I LAB | 1.00 |
| Select one of the following: | | 3.00-4.00 |
| BSC2011 & 2011L | INTRODUCTION TO BIOLOGY II and INTRODUCTION TO BIOLOGY II LABORATORY | |
| ZOO2010 & 2010L | GENERAL ZOOLOGY and GENERAL ZOOLOGY LABORATORY | |
| BOT2010 & 2010L | GENERAL BOTANY and GENERAL BOTANY LABORATORY | |
| MCB2010 & 2010L | MICROBIOLOGY and MICROBIOLOGY LABORATORY | |
| ORH2527 | (lecture only, no lab) | |

- STA2023 STATISTICS must be completed prior to entry or during the first year of baccalaureate study

Program Description

The Bachelor of Science (BS) in environmental science is designed for students that wish to pursue a career as a laboratory/field technician and/or progress to a graduate degree program (MS or PhD). The curriculum will provide the students with a foundational understanding of science, critical thinking skills, experiential learning, ethics and specific technical knowledge and skills required to work in the laboratory or the field. The Biosecurity track focuses on ecology, entomology, plant science, genetics and other aspects of environmental science. An optional Advanced Technical Certificate in Geographic Information Systems (GIS) provides additional discipline skills and knowledge that will make them competitive for employment within the environmental and biological science workforce.

Graduation Requirements

The Bachelor of Science degree will be awarded to students who meet the following requirements:

- A minimum of 120 semester credit hours in the prescribed coursework is required for the Bachelor of Science degree. Coursework is comprised of both lower division (AA or AS) and upper division (BS) as specified by the program sheet.
- Successful completion of the Senior Internship or Senior Research.
- Students must maintain an overall GPA of 2.5 to meet their graduation requirements.

Foreign Language Requirement

Students must successfully complete the foreign language requirement as prescribed in college policy and the college catalog.

Additional Program Information

Completion of the degree requires an internship or independent study project.

| Course | Title | Credits |
|------------------------------|---|-----------|
| ENY3005 | PRINCIPLES OF ENTOMOLOGY | 2.00 |
| ENY3005L | PRINCIPLES OF ENTOMOLOGY LAB | 1.00 |
| PCB4043 | INTRODUCTION TO ECOLOGY | 3.00 |
| Select one of the following: | | 3.00 |
| EVR2949 | CO OP WORK EXPERIENCE | |
| BSC2910 | DIRECTED INDEPENDENT RESEARCH | |
| BSC4911 | INDEPENDENT RESEARCH IN THE BIOLOGICAL SCIENCES | |
| BSC4948 | SENIOR INTERNSHIP | |
| PSC4912 | INDEPENDENT RESEARCH IN THE PHYSICAL SCIENCES | |
| PSC4948 | SENIOR INTERNSHIP | |
| ENY4949 | ENTOMOLOGY INTERNSHIP | |
| ENY4906 | DIRECTED ENTOMOLOGICAL RESEARCH | |
| PCB3063 | GENETICS | 3.00 |
| PCB3063L | GENETICS LAB | 1.00 |
| SWS3006 | INTRO TO SOIL SCIENCE | 3.00 |
| ENY4161C | INSECT CLASSIFICATION | 3.00 |
| or ENY4660 | MEDICAL AND VETERINARY ENTOMOLOGY | |
| PCB3023 | MOLECULAR AND CELLULAR BIOLOGY | 3.00 |
| PLP3002C | FUNDAMENTALS OF PLANT PATHOLOGY | 3.00 |
| or ZOO4234 | GENERAL PARASITOLOGY | |
| BSC4848 | SCIENTIFIC COMMUNICATION | 3.00 |
| GLY4072C | GLOBAL ENVIRONMENTAL CHANGE | 3.00 |
| ALS4163 | CHALLENGES IN PLANT RESOURCE PROTECTION | 3.00 |
| PCB4454C | BIOSTATISTICS WITH LAB | 4.00 |
| Electives | Elective Courses ¹ | 22 |
| Total Credits | | 60 |

¹ Program Electives (p. 2)

Notes:

Students must satisfy the Digital Literacy requirement by testing out, completing a Credit for Prior Learning portfolio, or passing CGS1060C COMPUTER AND INTERNET LITERACY.

In accordance with Florida Statute and Florida Administrative Code, students may need to satisfy the Civic Literacy Graduation Requirement. Visit the Civic Literacy Graduation Requirement page at [broward.edu/civic-literacy](https://students.broward.edu/resources/civic-literacy/) (<https://students.broward.edu/resources/civic-literacy/>).

Students are strongly encouraged to meet with an advisor (<https://students.broward.edu/resources/advising/>) to create a personalized educational plan.

Program Electives

| Course | Title | Credits |
|----------|---|---------|
| BCH3033 | BIOCHEMISTRY I | 3.00 |
| BSC2011 | INTRODUCTION TO BIOLOGY II | 3.00 |
| BSC2011L | INTRODUCTION TO BIOLOGY II LABORATORY | 1.00 |
| BSC2910 | DIRECTED INDEPENDENT RESEARCH | 1-3 |
| BSC4911 | INDEPENDENT RESEARCH IN THE BIOLOGICAL SCIENCES | 4.00 |
| BSC4948 | SENIOR INTERNSHIP | 3.00 |
| BSC4930 | SPECIAL TOPICS IN BIOLOGICAL SCIENCE | 1-3 |
| BOT2010 | GENERAL BOTANY | 3.00 |

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|----------|---|------|
| BOT2010L | GENERAL BOTANY LABORATORY | 1.00 |
| CGS1510C | EXCEL DATA ANALYSIS | 3.00 |
| CHM1046 | GENERAL CHEMISTRY II | 3.00 |
| CHM1046L | GENERAL CHEMISTRY II LAB | 1.00 |
| CHM2210 | ORGANIC CHEMISTRY I | 3.00 |
| CHM2210L | ORGANIC CHEMISTRY I LABORATORY | 1.00 |
| CHM2211 | ORGANIC CHEMISTRY II | 3.00 |
| CHM2211L | ORGANIC CHEMISTRY II LABORATORY | 1.00 |
| COP1700C | INTRODUCTION TO DATABASE AND MYSQL | 3.00 |
| ENY4161C | INSECT CLASSIFICATION | 3.00 |
| ENY4660 | MEDICAL AND VETERINARY ENTOMOLOGY | 3.00 |
| ENY4905 | REVIEW OF SCIENTIFIC LITERATURE | 1-3 |
| ENY4906 | DIRECTED ENTOMOLOGICAL RESEARCH | 3.00 |
| ENY4949 | ENTOMOLOGY INTERNSHIP | 3.00 |
| EVR1261 | FUNDAMENTALS OF AIR POLLUTION | 3.00 |
| EVR1858 | ENVIRONMENTAL REGULATION | 3.00 |
| EVR2930 | ENVIRONMENTAL SCIENCE SEMINAR | 1.00 |
| EVR2949 | CO OP WORK EXPERIENCE | 3.00 |
| EVR3400C | WILDLIFE ECOLOGY AND MANAGEMENT | 3.00 |
| EVS4905 | REVIEW OF SCIENTIFIC LITERATURE | 1-3 |
| FAS4202C | BIOLOGY OF FISH | 3.00 |
| GIS1000 | MAPPING FUNDAMENTALS SYSTEMS II | 3.00 |
| GIS1030 | REMOTE SENSING AND APPLICATIONS | 3.00 |
| GIS1040C | INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS I | 3.00 |
| GIS1042C | INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS II | 3.00 |
| GIS1047C | APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS | 3.00 |
| GLY4203 | ENVIRONMENTAL GEOLOGY AND LITHOSPHERIC PROCESSES | 3.00 |
| GLY4731 | COASTAL AND MARINE SCIENCE | 3.00 |
| GLY4820 | HYDROGEOLOGY | 3.00 |
| GLY4820L | HYDROGEOLOGY LAB | 1.00 |
| ISM3013C | INFORMATION SYSTEMS MANAGEMENT | 3.00 |
| MAC1114 | TRIGONOMETRY | 3.00 |
| MAC1140 | PRE CALCULUS ALGEBRA | 3.00 |
| MAC1147 | PRECALCULUS ALGEBRA AND TRIGONOMETRY | 5.00 |
| MAC2233 | CALCULUS FOR BUSINESS, SOCIAL AND LIFE SCIENCES | 3.00 |
| MAC2311 | CALCULUS AND ANALYTICAL GEOMETRY I | 5.00 |
| MAC2312 | CALCULUS AND ANALYTICAL GEOMETRY II | 5.00 |
| MAC2313 | CALCULUS AND ANALYTICAL GEOMETRY III | 5.00 |
| MAD2104 | DISCRETE MATHEMATICS | 3.00 |
| MAP2302 | DIFFERENTIAL EQUATIONS | 3.00 |
| MCB2010 | MICROBIOLOGY | 3.00 |
| MCB2010L | MICROBIOLOGY LABORATORY | 1.00 |
| MCB4652 | ENVIRONMENTAL MICROBIOLOGY | 3.00 |
| OCE3008 | ADVANCED OCEANOGRAPHY | 3.00 |
| OCE3064C | MARINE CONSERVATION AND RESTORATION BIOLOGY | 3.00 |
| ORH2527 | | 3.00 |
| PCB4303 | FRESHWATER ECOSYSTEMS | 3.00 |
| PCB4341C | ADVANCED BIOLOGICAL FIELD TECHNIQUES | 3.00 |
| PSC3639C | MARINE BENTHIC ECOLOGY | 3.00 |
| PSC4473C | SCIENTIFIC DIVING | 3-4 |
| PSC4912 | INDEPENDENT RESEARCH IN THE PHYSICAL SCIENCES | 1-3 |
| PSC4930 | SPECIAL TOPICS IN PHYSICAL SCIENCE | 1-3 |

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| PSC4948 | SENIOR INTERNSHIP | 3.00 |
| PLP3002C | FUNDAMENTALS OF PLANT PATHOLOGY | 3.00 |
| STA2023 | STATISTICS | 3.00 |
| SWS2242C | WETLANDS MANAGEMENT I | 3.00 |
| ZOO2010 | GENERAL ZOOLOGY | 3.00 |
| ZOO2010L | GENERAL ZOOLOGY LABORATORY | 1.00 |
| ZOO4234 | GENERAL PARASITOLOGY | 3.00 |
| ZOO4234L | GENERAL PARASITOLOGY LAB | 1.00 |
| ZOO4713 | COMPARATIVE VERTEBRATE ANATOMY & PHYSIOLOGY | 3.00 |
| ZOO4713L | COMPARATIVE VERTEBRATE MORPHOLOGY AND PHYSIOLOGY LAB | 1.00 |

Program Highlights

Credit for Prior Learning

Accelerate your path to completion with these options:

- Credit by exam
- Prior Learning Assessment
- Earned industry certifications
- And much more...

Related Industry Certifications

Upon completing this program, graduates will be eligible to sit for the following industry certifications/licenses: N/A

Median Wage and Job Growth Outlook

Broward College has Career Coach (<https://www.broward.edu/careercoach/>)! It is designed to help you find a good career by providing the most current local data on wages, employment, job postings, and associated education and training.

Fund Your Education

This Program is Financial Aid (<https://www.broward.edu/admissions/financial-aid/>) eligible. Scholarships (<https://www.broward.edu/admissions/financial-aid/scholarships/>) may be available.

Program Learning Outcomes

Graduates from this program will:

- Demonstrate increased proficiency in biostatistical analysis as it relates to Environmental Science.
- Successfully calculate Simpson's Inverse Index and Shannon-Weiner's Index for case study data.
- Demonstrate ability to use citation management software and properly cite references.
- Demonstrate mastery/competency of Jaccard's Index of Similarity, specifically in the following areas: define biodiversity and differentiate it from species richness and calculate biodiversity index values.
- Demonstrate proficiency with insect classification, specifically identifying Hemiptera: Suborder Heteroptera to family.