BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

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In the Environmental Science (BS) program, students develop a strong foundation in biological and physical sciences as they learn how these processes shape the natural world and what impact humans have on the environment. Students use this foundational knowledge as they examine the effects of human actions on the environment from multiple perspectives, including political, legal, economic, cultural and sociological. The program emphasizes experiential learning in the classroom and in regional, national and international settings. Environmental Science (BS) majors learn how to conduct environmental science research in a variety of subdisciplines and how to critically analyze and evaluate data, as well as integrate basic science principles and apply that knowledge to analysis and solutions of current environmental issues.

BS in Environmental Science Curriculum

Code	Title	Credits
University Curriculum [1]		46
College of Arts and Sciences Curriculum [2]		3-6
Environmental Program Shared Core		
ENV 101	Introduction to Environmental Studies	3
ENV 220 & 220L	Environmental Science and Environmental Science Lab	4
ENV 350	Environmental Studies Practicum	1-4
ENV 390	Environmental Writing (EN 390)	3
GP 240	Fundamentals of Geographic Information Systems	3
PL 226	Environmental Ethics	3
Choose one course from the following:		3
ENV 222	Environmental Geography and Culture (GP 222)	
ENV 230	Sustainable Development (AN 230)	
IDS 400	Transdisciplinary Project	3
Cognate Courses [3]		
BIO 101 & 101L	General Biology I and General Biology I Lab	4
BIO 102 & 102L	General Biology II and General Biology Lab II	4
CHE 110 & 110L	General Chemistry I and General Chemistry I Lab	4
CHE 111 & 111L	General Chemistry II and General Chemistry II Lab	4
CHE 210 & 210L	Organic Chemistry I and Organic Chemistry I Lab	4
Choose one track: Biology or Chemistry		
Biology Track (Take a minimum of 11 cr.)		
BIO 152 & 152L	Ecological and Biological Diversity and Ecological and Biological Diversity Laboratory	4
BIO 225	Physiological Diversity	3
BIO 282 & 282L	Genetics and Genetics Lab	4
BIO 352 & 352L	Botany and Botany Lab	4
BIO 358 & 358L	Life on a Changing Planet and Life on a Changing Planet Lab	4
BIO 323 & 323L	Invertebrate Zoology and Invertebrate Zoology Lab	4
BIO 383	Evolution	3
BMS 325	Toxicology	3
BMS 370	General Microbiology	3
ENV 201	Lessons in Local and Global Sustainability	3
Chemistry Track (Take a minimum of 11 cr.)		
BMS 325	Toxicology	3
BMS 370	General Microbiology	3
CHE 211 & 211L	Organic Chemistry II and Organic Chemistry II Lab	4
CHE 215 & 215L	Analytical Chemistry and Analytical Chemistry Lab	4
CHE 305 & 305L	Instrumental Analysis and Instrumental Analysis Lab	4
CHE 315 & 315L	Biochemistry I and Biochemistry I Lab	4
CHE 316	Biochemistry II	3
ENV 201	Lessons in Local and Global Sustainability	3
Electives [4]		6
Free Electives		5-12
Total Credits		**120**

1. All students must complete the 46 credits of the University Curriculum (http://catalog.qu.edu/academics/university-curriculum/).
2. Students must complete the College of Arts and Sciences Curriculum (http://catalog.qu.edu/arts-sciences/cas-curriculum/) requirements specific to their major.
3. Required courses that support the Environmental Science major and may be used to fulfill requirements outside the major.
4. Choose two courses from the areas of Economics, Government/Policy, Law; Culture, Geography, History, Society; or Engineering, Math, Science.

Student Learning Outcomes

Upon graduation, all Environmental Science majors will be able to demonstrate the following competencies:

- **Interdisciplinary Knowledge:** A broad knowledge#base of principles in natural sciences,#social#sciences,#humanities and fine arts, with cognate knowledge#in mathematics.
- **Critical/Creative Thinking and Problem Solving:** The ability to apply knowledge and#skills to work toward solutions to increasingly complex problems, envision alternative approaches and identify and evaluate potential solutions.
- **Cognitive Complexity:** The ability to draw upon scientific, social scientific, humanistic and artistic methods and thought to envision and develop creative solutions to problems.

- **Analysis and Evaluation:** The ability to analyze and evaluate scientific evidence and assess ideas against available evidence.
- **Experiential Learning:** The ability to apply acquired knowledge and skills to investigate problems by working on domestic and international projects in unscripted, living contexts.
- **Effective Oral/Written Presentation:** The ability to present facts, analysis, and arguments effectively to communicate to multiple audiences.
- **Technical Training:** The relevant knowledge and hands-on skills to be able to work safely and independently in laboratory and field settings to collect and record data.
- **Intercultural Awareness:** Global awareness and#local sensitivity#to different populations, their values and objectives, and#the ways in#which these populations are#affected by environmental phenomena.
- **Career Preparation:** Competitive preparedness for entry-level#employment in a changing marketplace or for acceptance into#a graduate or professional degree program.