BESC 201 Introduction to Bioenvironmental Sciences  
Credits 3.3 Lecture Hours.  
A broad survey of environmental science with an emphasis on scientific literacy, current events, global and international issues and historic context.

BESC 204 Molds and Mushrooms: The Impact of Fungi on Society and the Environment  
Credits 3.3 Lecture Hours.  
Introduction to the fungi and the impact these organisms have on society and the environment; includes life cycles of fungi; classification schemes, pathogens of plants, animals and humans, fungi in food production; toxic fungi and the law, and others.

BESC 285 Directed Studies  
Credits 1 to 4. 1 to 4 Other Hours.  
Individually supervised research or advanced studies for lower-division undergraduate students to independently investigate special problems not available in existing courses.  
Prerequisite: Approval of instructor in consultation with departmental advisor.

BESC 291 Research  
Credits 1 to 4. 1 to 4 Other Hours.  
Research conducted under the direction of faculty member in bioenvironmental sciences. May be repeated 3 times for credit.  
Prerequisites: Freshman or sophomore classification and approval of instructor.

BESC 311 International Perspectives on Environmental Issues  
Credits 3.3 Lecture Hours.  
Role of the United Nations and other institutions that promote international cooperation toward sustainable development goals; influence of cultural views on critical thinking about environmental issues, including population, water and agriculture, biodiversity and energy.  
Prerequisite: Junior classification or approval of instructor; must attend two mandatory pre-departure meetings.

BESC 314 Pathogens, the Environment and Society  
Credits 3.3 Lecture Hours.  
The impact of microorganisms (bacteria, fungi and viruses) on the development of modern culture and society; the role pathogens played in the history of mankind and the influence of the changing environment on emerging diseases.  
Prerequisite: Junior or senior classification.

BESC 320 Water and the Bioenvironmental Sciences  
Credits 3.3 Lecture Hours.  
Critical understanding of salient issues relating to fresh water as a limited and important bioenvironmental resource.  
Prerequisite: Junior or senior classification.

BESC 357 Biotechnology for Biofuels and Bioproducts  
Credits 3.3 Lecture Hours.  
Biotechnology issues in developing bioenergy as a renewable energy source; emphasis on the three generations of bioenergy and enabling technologies; special topics include recent advances in bioenergy research, government policy, and industrial development.  
Prerequisite: BESC 201 and junior or senior classification.

BESC 367 U.S. Environmental Regulations  
Credits 3.3 Lecture Hours.  
Investigation of the legal infrastructure of the U.S. associated with regulating environmental impacts; examination of major U.S. environmental statutes associated with air and water quality, toxic substances, waste and hazardous substance release, energy and natural resources; review the relationship between U.S. policy and international environmental regulations.  
Prerequisites: BESC 201 or GEOS 105.

BESC 401 Bioenvironmental Microbiology  
Credits 3.3 Lecture Hours.  
The interactions of microorganisms in diverse environments; applied aspects of microbial interactions in the environment, their effects on the environment, and potential use to solve environmental problems.  
Prerequisites: CHEM 222 or CHEM 227; or approval of instructor.

BESC 402 Microbial Processes in Bioremediation  
Credits 3.3 Lecture Hours.  
Metabolic pathways of microbes involved in the biodegradation of hazardous materials; ecological requirements for biotreatability of contaminated sites; emphasis on factors affecting microbial growth; strategies for in situ bioaugmentation.  
Prerequisite: CHEM 222 or CHEM 227.

BESC 403 Sampling and Environmental Monitoring  
Credits 3.2 Lecture Hours. 3 Lab Hours.  
Introduction to environmental sampling and methodology; strategies and analyses of sampling data; overview of current applications of sampling and monitoring in the environmental sciences; emphasis on practical aspects of sampling from air, soil and water; detection and quantification of microbial and chemical unknowns in environmental media.  
Prerequisite: Junior or senior classification or approval of instructor.

BESC 411 Environmental Health and Safety Compliance  
Credits 3.3 Lecture Hours. 1 Lab Hour.  
Investigation of various Environmental Health and Safety (EHS) practices necessary for compliance with state and federal regulations; reinforcement of real-world understanding; tour several regulated facilities on campus and learn about the particular TAMU-EHS compliance management strategies for each (utilities, underground storage tanks, wastewater treatment and hazardous waste facility).  
Prerequisite: BESC 367 or similar regulation intensive course and approval of instructor.

BESC 431 Bioenvironmental Data Analysis  
Credits 3.3 Lecture Hours.  
Data management, analysis and interpretation specifically for bioenvironmental research purposes; development of skills required to draw conclusions from data, specifically the types of data relevant to studying the interface of biological and environmental processes; exploration of the challenges of bioenvironmental data analysis; exposure to and development of skills in presentations that highlight the challenges of successfully communicating results and conclusions that necessarily rest on interpretation and assumptions.  
Prerequisite: BESC 201; STAT 302 or 303.

BESC 481 Seminar  
Credit 1. 1 Lecture Hour.  
Capstone course for topics in bioenvironmental sciences; critical analysis of environmental issues through written themes and presentations. May be taken three times for credit.  
Prerequisites: BESC 201 and senior classification in BESC major.
BESC 484 Field Experience
Credits 1 to 4. 1 to 4 Other Hours.
An on-the-job supervised experience program conducted in the area of
the student's specialization.
Prerequisite: Junior or senior classification or approval of department
head.

BESC 485 Directed Studies
Credits 1 to 4. 1 to 4 Other Hours.
Special problems for advanced undergraduates to permit study of subject
matter not available in existing courses.
Prerequisite: BESC 201 or approval of instructor.

BESC 489 Special Topics in...
Credits 1 to 4. 1 to 4 Lecture Hours. 1 to 4 Lab Hours.
Selected topics in an identified area of bioenvironmental sciences. May
be repeated for credit.
Prerequisite: BESC 201 or approval of instructor.

BESC 491 Research
Credits 1 to 4. 1 to 4 Other Hours.
Research conducted under the direction of faculty member in
bioenvironmental sciences. May be repeated 3 times for credit.
Registration in multiple sections of this course are possible within a given
semester provided that the per semester credit hour limit is not exceeded.
Prerequisites: Junior or senior classification and approval of instructor.