## MONTGOMERY COUNTY COMMUNITY COLLEGE BIO 115H Environmental Biology, Honors 3-3-0

### CATALOG DESCRIPTION

This course is designed to explore three aspects of the environment: the interacting components of the environment apart from humans, the impact of humans and contemporary cultures on the environment, and local pollution problems and possible solutions.

This Honors course fosters high-achieving students' growth towards learning outcomes such as: problem solving, often with creative approaches; critical reading or original data analysis; forming judgments based on evidence, often from integrative learning; clear, persuasive research writing; oral presentation; and articulate reflection on personal growth. Honors courses are more likely to utilize student-driven active learning, emphasizing exploration and discovery, rather than the acquisition of specific knowledge; faculty might provide projects with no pre-determined conclusion, but with real-world application.

#### REQUISITES

Previous Course Requirements None

*Concurrent Course Requirements* None

| LEARNING OUTCOMES<br>Upon successful<br>completion of this course,<br>the student will be able to:                             | LEARNING ACTIVITIES   | EVALUATION METHODS                                      |
|--|---|---|
| <ol> <li>Describe energy flow,<br/>nutrient cycling and the<br/>population dynamics of<br/>ecosystems.</li> </ol>              | Lectures<br>Class Discussions<br>Field Trips<br>Presentations<br>Written Exams<br>Research Papers<br>Case Studies | Quizzes<br>Tests  |
| 2. Examine current<br>environmental<br>problems in relation to<br>the way the world<br>naturally works and act<br>accordingly. | Lectures<br>Class Discussions<br>Field Trips<br>Presentations<br>Written Exams<br>Research Papers<br>Case Studies | Quizzes<br>Tests<br>Research Papers<br>Class Discussion |

| LEARNING OUTCOMES<br>Upon successful<br>completion of this course,<br>the student will be able to:   | LEARNING ACTIVITIES   | EVALUATION METHODS                                      |
|--|---|---|
| <ol> <li>Describe the<br/>complexity of<br/>environmental issues<br/>and the information<br/>necessary to alleviate<br/>or mitigate the<br/>problems.</li> </ol> | Lectures<br>Class Discussions<br>Field Trips<br>Presentations<br>Written Exams<br>Research Papers<br>Case Studies | Quizzes<br>Tests<br>Research Papers<br>Class Discussion |

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that 70% of students will meet or exceed outcome criteria.

## SEQUENCE OF TOPICS

- 1. Analysis of ecosystems by examining the flow of energy, the biogeochemical cycles, the principles of population growth
- 2. Energy flow in human cultures, the pathway of various nutrients and the growth of human population.
- 3. Natural world functions a detailed examination of local environmental problems.

# LEARNING MATERIALS

Current periodicals pertaining to environmental issues; government documents from the national, regional, state and local environmental agencies; appropriate pamphlets and books as well as other appropriate resources will be used.

#### COURSE APPROVAL:

|                | Dr. Richard J. Andren<br>Compliance Verification: Dr. Bradley Gottfried                          | Date: 6/1/1998<br>Date: 1998         |
|----------------|--|--------------------------------------|
|                | Jerry Coleman<br>or designee Compliance Verification:<br>Victoria L. Bastecki-Perez, Ed.D.       | Date: 3/2013                         |
|                |  | Date: 6/10/2013                      |
| VPAA/Provost o | Debbie Dalrymple<br>or designee Compliance Verification:<br>Victoria L. Bastecki-Perez, Ed.D.    | Date: 6/27/2016                      |
|                |  | Date: 6/27/2016                      |
|                | Samuel Clay Wallace<br>or designee Compliance Verification:<br>Victoria L. Bastecki-Perez, Ed.D. | Date: 4/6/2017                       |
|                |  | Date: 4/14/2017                      |
|                | Debbie Dalrymple<br>or designee Compliance Verification:   | Date: 12/17/2017<br>Date: 12/18/2017 |

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This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.