RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

ENVI 101 - ENVIRONMENTAL STUDIES

I. Basic Course Information
   A. Course Number and Title: ENVI 101: Environmental Studies
   B. New or Modified Course: Modified
   C. Date of Proposal: Semester: Fall Year: 2016
   D. Effective Term: Fall 2017
   E. Sponsoring Department: Science & Engineering
   F. Semester Credit Hours: 3
   G. Weekly Contact Hours: 3
      Lecture: 3
      Laboratory: 0
      Out of class student work per week: 6
   H. Prerequisites/Corequisites: None
   I. Laboratory Fees: No
   J. Name and Telephone Number or E-Mail Address of Department Chair at time of approval: Sarah Imbriglio sarah.imbriglio@raritanval.edu

II. Catalog Description
   Prerequisites: None.
   This course is an introduction to environmental studies. Students will explore current topics to understand the causes and consequences of environmental problems facing the world and efforts being made to address them. Students will apply scientific methods to analyze and evaluate how these environmental concerns relate to their own lives from both global and local perspectives. One weekend field trip is required. Students cannot receive credit for both ENVI 101 and ENVI 102. This course may be used to fulfill one semester of a non-laboratory science requirement for non-science majors or as an elective for science majors.

III. Statement of Course Need
A. This course is a comprehensive introduction to the environment with an emphasis on the impact of human activities. This course will serve as a first exposure to the topic for many students due to a general absence of basic environmental curricula in the public education system. By covering a wide array of environmental issues, the course is likely to appeal to the broadest range of potential student interests. By focusing on basic aspects of human life (e.g., food, energy, air, water, etc.), the course is likely to be relevant and meaningful both to students engaged in formal environmental programs as well as general public interest. This course applies a broad perspective to include the various political, economic, cultural and philosophical dimensions in which environmental issues are embedded in the real world. From this vantage, students are likely to get a better sense of the complexity of these issues and of the various causes and consequences that need to be addressed in order to devise solutions to them.

B. No laboratory component is required.

C. Course transferability:
   1. This course transfers as a General Education course in Science (Non-Lab).
   2. This course may transfer as a program requirement for Environmental Studies A.A. and Environmental Science A.S. majors.
   3. This course does not generally transfer as a program elective.

IV. Place of Course in College Curriculum

A. Free Elective
B. This course serves as a General Education Science (Non-Lab) course.
C. Course transferability: The course transfers as a first course for Environmental Science majors and as a non-laboratory science course for all other programs; for New Jersey schools go to the NJ Transfer website, www.njtransfer.org. For all other colleges and universities, go to their individual websites.

V. Outline of Course Content

A. Introduction to Environmental Studies
   a. Defining “Environment”
   b. Relation to other disciplines
   c. Online environmental databases
      1. Using scientific method to analyze local and global environmental problems
         i. water quality
         ii. air pollution
         iii. pesticide residues in produce
         iv. toxins in consumer products
         v. e-waste
         vi. local toxic waste sites
      2. Use scientific method to evaluate significance and develop solutions
   d. Beach clean-up
      1. Standards and methods of data collection
2. Data analysis and comparison
3. Evaluation

B. Water Pollution
   a. The Water Cycle and Fresh Water Scarcity
   b. Major Categories and Causes of Water Pollutants
   c. Case Studies
      1. Surface and Ground Water Quality in U.S.
      2. Ocean Pollution
      3. Tap Water vs. Bottled Water
   d. Other Water Issues
      1. Droughts and Water Scarcity
      2. Floods
      3. Dams and Water Diversion

C. Air Pollution
   a. Air Quality and Atmospheric Science
   b. History of Air Pollution and Regulation
   c. Major Categories of Air Pollutants
   d. Case Studies
      1. Leaded Gasoline
      2. CFC’s and the Ozone Layer

D. Waste and Recycling
   a. Human “Waste” and Natural Systems
   b. Solid Waste Management
   c. Where Your Garbage Goes…
      1. Garbage Barges and Landfills
      2. Recycling
      3. Incineration
   d. Case Studies
      1. Paper vs. Plastic Bags
      2. Life Cycle Analysis
      3. Marine Plastic Debris

E. Toxic Waste, Toxins and Toxicity
   a. Types of Toxins
   b. Determining Toxicity
   c. Hazardous Waste Management
   d. Case Studies
      1. E-Waste
      2. Love Canal and Bhopal
      3. Household Products and Consumer Safety

F. The Built Environment
   a. Shelter, Architecture and the Environment
   b. Conventional vs. Sustainable Building Materials and Methods
   c. Case Studies
      1. Vinyl Siding and PVC
      2. Old Growth Redwoods and Deforestation
      3. Pressure-Treated Wood
4. LEED and Forest Product Certification Systems

G. Transportation
   a. Physics and History of Transportation
   b. Fuel Efficiency Standards and Regulations
   c. Public Transportation and Other Alternatives
   d. Case Studies
      1. Electric Cars
      2. Great American Trolley Car Scandal

H. Climate Change and Alternative Energies
   a. Global Warming: Science and Politics
   b. Alternative Energies and Energy Conservation
   c. Case Studies
      1. Light Pollution
      2. Conservation Power Plants
      3. Incandescent vs. Compact Fluorescent Lighting

I. Sustainability: Politics, Economics and the Environment
   a. Natural Limits to Economic “Growth”
   b. Individual and Corporate Power
   c. Environmental Rights and Responsibilities
   d. Consumerism and Industrial Economics
   e. “Free” and “Fair” Global Trade
   f. Sustainability and the “Triple Bottom Line”

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

   At the completion of the course, students will be able to:
   1. apply the scientific method to analyze environmental problems and draw conclusions from data and evidence (GE-NJ3);
   2. understand ethical issues and situations related to environmental problems (GE-NJ ER);
   3. use technological resources to find scientific data and evidence needed to answer questions about local and/or global environmental quality (GE-NJ4 IL);
   4. evaluate and think critically about information related to the scientific, political, economic, social, and historical dimensions of environmental issues (GE-NJ IL*)
   *embedded critical thinking

B. Course Learning Outcomes:

   At the completion of the course, students will be able to:
   1. describe the current state and trends of our air, water, energy, land and food resources;

C. Assessment Instruments
Given the outcomes described above, the following assessment methods may be used:

A. examinations
B. Identify and analyze data utilizing online databases (required)
C. beach cleanup data collection and analysis using the scientific method
D. presentations (required)
E. essays
F. reflective journal incorporating ethical implications (required)

VII. Grade Determinants

The following may be used to determine the final grade:

A. mid-term and final exam
B. Identify and analyze data utilizing online databases (required)
C. beach cleanup data collection and analysis using the scientific method
D. presentations
E. class/homework assignments
F. service learning incorporating ethical standards (required)

Given the goals and outcomes described above, the primary formats, modes, and methods for teaching and learning that may be used in the course include:

A. lecture/discussion
B. small-group work
C. computer-assisted instruction
D. guest speakers
E. student oral presentations
F. student collaboration
G. independent study

VIII. Texts and Materials

The following types of course materials may be used:

A. Suggested Texts:

B. Articles from scientific journals and periodicals

C. Interview transcripts

D. Book Reviews

E. Student Writing

F. Films and Documentaries

G. Radio Recordings

H. Internet Databases and Information Sources

I. Library Article Databases

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)
IX. Resources

A. RVCC van and/or bus rental;
B. Library databases and other resources;
C. Film and documentaries from the RVCC Science Library
D. Tablets/Computers for in-class internet assignments

X. Honors Option

Not applicable.