

III. Statement of Course Need

- A. Science literacy is severely lacking at the local, national and global levels of society. However, science literacy is necessary to understand and make informed decisions of science and technology issues. This course will use inquiry and research to provide a rich introduction to the scientific method, scientific tools and technology, and various fields of science, including medicine and health, environmental science, biotechnology, and other areas of current, popular science and pseudoscience. The course will engage students in the process of critical thinking and discovery, and will reinforce the specific habits that generate a scientific perspective on the world.
- B. There is no lab.
- C. This course generally transfers as a free elective and it is anticipated to transfer as a non-lab science general education course.

IV. Place of Course in College Curriculum

- A. Free Elective
- B. This course serves as a General Education course in non-lab science. (pending)
- C. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

- A. What is science vs. pseudoscience?
- B. History of scientific influence on society
- C. The scientific method and research tools
 - 1. Observation and research
 - 2. Hypothesis synthesis
 - 3. Testable predictions and experimentation
 - 4. Data interpretation, results and evidence
 - 5. Theory formation
- D. Media literacy
 - 1. Television
 - 2. Print
 - 3. Internet
- E. Implications for false scientific claims
 - 1. Ethical
 - 2. Legal
 - 3. Social

F. Scientific topics of discussion

1. Ecology
2. Climate
3. Nutrition
4. Biotechnology
5. Medicine
6. Genetics
7. Other current topics

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

At the completion of the course, students will be able to:

1. Identify and critically evaluate sources of scientific information. (GE-NJ IL, *)
2. Discuss the ethical implications of being scientifically responsible, and think critically about the influence of science on society (GE-NJ ER*).
3. Use the scientific method to evaluate a problem and generate conclusions. (GE-NJ 3).
4. Compose oral and written reports on a scientific topic using research methods (GE-NJ 1, 4)

(* embedded critical thinking)

B. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Demonstrate the use of inquiry to validate current scientific claims.
2. Distinguish between science and pseudoscience and demonstrate scientific literacy.
3. Identify and discuss the roles of media sources in the dissemination of science to the public
4. Discuss the need for scientific literacy as an informed citizen.

C. Assessment Instruments

- A. Research papers (required)
- B. Experiments using the scientific method (required)
- C. Essays
- D. Discussions (required)
- E. Presentations (required)
- F. Tests

VII. Grade Determinants

- A. Research papers (required)
- B. Essays
- C. Discussions (required)
- D. Presentations (required)
- E. Tests

Primary formats, modes, and methods for teaching and learning that may be used in the course:

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

VIII. Texts and Materials

- A. web sources
- B. primary sources
- C. interviews
- D. student writing
- E. film and video
- F. audio sources

(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. Computer with internet and research capabilities

X. Honors Options [if relevant]: no honors option