

ISC 280 Sp. Tp. : Living on Earth Section 207 CRN 2682 4.00 hours

Lecture and Lab - Wednesdays 5 - 9:20 pm., Science 200

Instructor: Samuel T. Colvin office - G-31-G, Morrow Library colvin8@marshall.edu

(304) 696-5432 Instructor's schedule :

MW IST 321 3 - 4:15 pm. G-18 Morrow

MW 4:15 - 5 pm. IN OFFICE G-31-G Morrow

M 5 - 9:20 pm. ISC 280 Lecture and Lab 200 Science

T 5 - 9:20 pm. ISC 280 Lecture and Lab 200 Science

W 5 - 9:20 pm. ISC 280 Lecture and Lab 200 Science

AVAILABLE BY APPOINTMENT ONLY- M T W 8 am.- noon

Pre-requisite : MTH 121 or 121B or 123 or 127 or 130 or 130E or 203 or 229

COURSE CONDUCT AND MATERIALS :

Students will work in groups and/or individually to examine the world's current environmental status. Students will gather information from various sources including the Internet, books, scientific references, and contacts with resource people. Course materials will be mainly handouts.

COURSE EVALUATION :

Students will be evaluated through (1) laboratory activities worth 10 points each or 150 points total; (2) a test near the middle of the term worth 100 points; (3) the final exam worth 100 points; (4) selection and outline of topic and references for Assignments 1 - 4 (Submitted to Vista as a Word Document) worth 50 points; (5) Assignment I - lab report on the process of science (Students will make observations, develop hypotheses, design experiments, collect data and draw conclusions. Submitted as a Word document to Vista. Oral summary) worth 100 points; (6) Assignment II - comparative critique of two papers (one chosen as an example of science and the other as an example of pseudo (false) science. Minimum 3 pages, double spaced, submitted as a Word document to Vista. Oral summary.) worth 100 points; (7) Assignment III - written synthesis (report) based on 3 or more references emphasizing scientific findings and the strength of those findings (Minimum 3 pages, double spaced, submitted as a Word document to Vista. Oral summary.) worth 100 points; (8) Assignment IV oral presentation summarizing an area of scientific research based on a minimum of 3 scientific references (Minimum 10 minutes, submitted as Power Point to Vista) worth 100 points. A total of 800 points is possible.

Accommodations for learning disabilities will be arranged when an official form is received. Students who consistently (2 or more times) come to class late will be subject to a reduction in points not to exceed a one letter grade reduction. Absences will be excused only with written excuses in accordance with University attendance policy. Students with excused absences are responsible to make up work immediately upon return to class. Plagiarism or cheating will result in no credit for that activity and may result in further University sanctions. Work turned in late or not in the prescribed format will be penalized, or at the discretion of the instructor not accepted for

grading. No work received after the final will be graded. Not submitting work may lead to receipt of an incomplete. Work may not be returned; please keep copies if desired.

Percentages Points

Grades : A 90-100% 720 to 800

B 80-89% 640 to 719

C 70-79% 560 to 639

D 60-69% 480 to 559

F < 60% 0 to 479

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Integrated Sciences Learning Objectives

Upon completion of the ISC component of the Marshall Plan students will:

1. understand and apply the processes of scientific investigation to gather information and an understanding of the natural universe.
2. know how to distinguish the differences between science and pseudoscience.
3. gather, analyze, and draw conclusions based on valid interpret of data.
4. possess and exhibit improved skills and competencies in research, writing, and oral presentations.

COURSE OUTLINE AND SCHEDULE

Dates Lectures

Week 1 1/11 assessment, syllabus, get acquainted, environmental scientist

Week 2 1/18 atoms / molecules / compounds / cells / tissues / organs / systems

Week 3 1/25 matter / energy / life / organisms / species / populations

Selection and outline of topic and references for Assignments 1 - 4

Week 4 2/1 biological communities / ecosystems / biomes

Week 5 2/8 earth and its crust, soil, land use

Assignment I - Lab report due and presented.

Week 6 2/15 water / air / weather / climate

Week 7 2/22 world problems/ population

Week 8 3/1 biodiversity/ protect species/ habitat

Week 9 3/8 food / hunger / nutrition / review

Assignment II - Critique due and presented.

Week 10 3/15 Mid-term

3/22 Spring Vacation

Week 11 3/29 environmental health, energy management

Week 12 4/5 air pollution / treatment, global climate change;

Assignment III - Synthesis due and presented.

Week 13 4/12 water pollution / treatment

Week 14 4/19 solid waste, compost

Assignment IV - Ten-minute oral presentation due and made.

Week 15 4/26 Presentations continue if necessary. Local environmental issues,
review

5/3 Final Exam 5 pm.

Labs * = Assignment to be turned in.

1 - 1/11 scientific method *

2 - 1/18 plants and trees *

3 - 1/25 rocks and minerals *

4 - 2/1 land use *

5 - 2/8 water *

6 - 2/15 stream assessment & presentation * 7 - 2/22 planning Earth Day activities *

8 - 3/1 campus observation & presentation *

9 - 3/8 energy *

10 - 3/15 environmental issues / government agencies / citizen groups *

11 - 3/29 environmental indicators *

12 - 4/5 disposal observation & presentation *

13 - 4/12 compost, garbage survey *

14 - 4/19 conservation / preservation / ecotourism *

15 - 4/26 summary lab *

Due dates and assignments are subject to change. The final word on changes will be announcements in class. Due dates will only be moved back, not forward.