

COURSE: ISC 211 Living on Earth      CREDIT HOURS : 4      Spring, 2011

Lecture: Tuesdays and Thursdays 8 – 9:15 am.   Science Room 374

Lab: Science Room 200      Mondays 8 – 9:50 am.   Section 205 CRN 2769

Mondays 10 – 11:50 am.   Section 206 CRN 2770

Mondays 1 – 2:50 pm.   Section 207   CRN 2771

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Instructor: Samuel T. Colvin

Office – 213 Prichard

Phone: (304) 696-5432

E- mail: [colvin8@marshall.edu](mailto:colvin8@marshall.edu)   This is the only e-mail address to which I respond. Please do not

send e-mails to any other address or through forums.

Because of the phone system, I can only return local phone calls and often cannot return some cell phone calls. I only check and return phone calls and e-mails during regular office hours during the semester, but I do respond if at all possible.

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Regular office hours :   Mondays noon – 1 pm., Tuesdays 2 – 3 pm., Thursdays 2 – 3 pm.

OTHER OFFICE HOURS BY ADVANCE APPOINTMENT ONLY: Mondays 3 – 6 p.m., Tuesdays and Thursdays 3 - 5 pm.   I will not be in the office at those times unless there is an advance appointment.

I may also be contacted between classes. My schedule is posted on my office door.

I AM NOT ON CAMPUS ON WEDNESDAYS, FRIDAYS, SATURDAYS OR SUNDAYS.

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MARSHALL PLAN - 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 Learning Objectives:**

1. learn to think critically
2. understand the scientific method and learn the process the processes of scientific investigation
3. know how to distinguish the differences between science and pseudoscience

4. gather and analyze data to draw conclusions based on valid interpretation of results
5. garner skills and competencies in research, writing, and presentation
6. acquire knowledge and gain an understanding of natural science

| Assessment Tool* |  | Learning Objective Assessed** |    |    |    |    |    |
|------------------|--|-------------------------------|----|----|----|----|----|
|                  |  | 1.                            | 2. | 3. | 4. | 5. | 6. |
| A.               | Pre test/post test on the scientific process   | ✓                             |    |    |    |    |    |
| B.               | <u>Portfolio Assignment I.</u> Lab Report on the Process of Science. Students will make observations, develop hypotheses, design experiments, collect data, and draw conclusions. Submit as a Word document.   | ✓                             | ✓  | ✓  | ✓  | ✓  | ✓  |
| C.               | <u>Portfolio Assignment II.</u> Comparative critique of two papers one chosen as an example of science and one as an example of pseudo science. Minimum 3 pages, double spaced submitted as a Word document.   | ✓                             | ✓  | ✓  | ✓  | ✓  | ✓  |
| D.               | <u>Portfolio Assignment III.</u> Provide a synthesis based on three or more reference sources emphasizing scientific findings and the strength of those findings. Minimum, 3 pages double spaced submitted as a Word document.   | ✓                             | ✓  |    | ✓  | ✓  | ✓  |
| E.               | <u>Portfolio Assignment IV —</u> Presentation or Report Summarizing an Area of Scientific Research. The emphasis is on presentation of scientific information as a stand-alone, kiosk-like presentation or report. Sound argument, clarity, and accuracy of conclusions are emphasized. Presentation in a format that allows wide distribution; PowerPoint required. | ✓                             | ✓  |    | ✓  | ✓  | ✓  |

**Course Conduct:** 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, and other scientific references. Course materials will be mainly handouts. There is no required text or recommended reading outside of class.

The instructor is responsible to: 1. Introduce concepts and issues. 2. Model a scientific approach. 3. Evaluate student submissions. 4. Make interesting and relevant presentations.

Students are responsible to: 1. Participate in activities 2. Submit individual assignments and assure their proper receipt. 3. Take tests. 4. Remain interested and apply learning to life.

## POLICIES:

Accommodations for learning disabilities will be arranged when an official form is received. For further information, log onto <http://www.marshall.edu/disabled>.

Students who consistently (2 or more times) come to lab late may be subject to a reduction in points not to exceed a one letter grade reduction at the discretion of the instructor.

Absences from labs will be excused only with written excuses in accordance with University attendance policy. Students are responsible to make up any lab missed because of an excused absence within seven (7) days after that absence. No credit will be recorded (1) unless the missed lab is made up within seven (7) days of the absence and (2) until the University approved excuse is received by the instructor. Only the instructor can amend this policy at his discretion in cases of extreme hardship.

While attendance in lecture is not recorded, attendance is recommended.

Plagiarism or cheating will result in no credit for that activity and may result in further University sanctions.

It is the student's responsibility to assure the receipt by the instructor of assignments and labs in the prescribed format so that the work can be opened and graded. Work not in the prescribed format or not under the right assignment will be penalized, or at the discretion of the instructor, not accepted for grading. MU Online will be the only acceptable vehicle for submission of work unless the instructor announces a different vehicle. PLEASE DO NOT SEND SUBMISSIONS BY E-MAIL.

Submission deadlines to MU Online are detailed below and will be enforced. Late submissions to MU Online will be accepted with penalty until the cutoff. After the cutoff, MU Online will not allow submissions. Submissions will not be returned. Please keep copies of all work submitted.

Assignments I, II, III and IV are College of Science requirements, must pertain to the topic and references chosen by the student, and must be submitted to MU Online to successfully complete the course. If assignments are not submitted properly, the minimum penalty will be a reduction in points equaling at least one letter grade reduction for each assignment not submitted. At the discretion of the instructor, the maximum penalty of a failing grade may be levied instead.

Grades will be reported on MU Online allowing students to determine their grade status anytime, but especially prior to course withdrawal deadlines and end of the class. Assignments and labs will be marked, graded and comments (if any) returned through MU Online within two weeks after the due date. It is the student's responsibility to check grades and comments (if any) to assure the proper receipt of and credit for assignments and labs.

There is no extra credit, re-testing, scaling, or rounding. No work received after the last exam will be graded. The course officially closes at the end of the last exam. After the class is over, please only contact me if I can be of assistance such as being a reference or if you feel there has been a point total error. Please do not contact me attempting to negotiate a better grade.

The instructor may, at his discretion, consider awarding extra points to a student less than five (actual, not percentage) points away from the next grade level provided that student has completed all assignments, activities and labs in a timely fashion.

Questions from students about the class may be asked during class or sent by e-mail to [colvin8@marshall.edu](mailto:colvin8@marshall.edu).

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.

The University policies related to nondiscrimination, computing services acceptable use (<http://www.marshall.edu/ucs/CS/acceptuse.asp>), and inclement weather ([http://www.marshall.edu/www/policy/policy\\_07.html](http://www.marshall.edu/www/policy/policy_07.html)) will be followed.

If the University is delayed for an hour until 9 a.m. on a Monday, the first lab will start at 9 a.m. The other two labs will be held as scheduled. If the University is delayed for two hours until 10 a.m. on a Monday, the first lab will not be held and will be made up the next week during the first lab. The other two labs will be held as scheduled.

If the University is delayed for an hour or more on a Tuesday or Thursday, the lecture that day will not be held and will be made up during a later lecture period.

If the University is closed for the entire day, no labs or lecture will be held that day. The work will be made up at a later time.

Schedule changes not related to inclement weather - If the instructor must change the time or place of a scheduled event (lab, or lecture or office hours), he will make every effort (1) to announce the change in a prior class, (2) to e-mail students in advance and / or (3) at a minimum to have a sign posted on the original room with the instructor's name on the sign. The same type of notification can be expected if the instructor must cancel a scheduled session,

Below is the current University policy related to the granting of incompletes for courses. This policy will be strictly followed.

*“Incomplete:* The grade of *I* (incomplete) indicates that the student has completed three-quarters of the course, but cannot complete the course for a reason that accords with the university excused-absence policy. Students must be in good standing in the class prior to requesting an incomplete. The course instructor decides whether or not an incomplete will be granted and specifies in writing what work the student must complete to fulfill the course requirements. The student has until the end of the next fall or spring semester from the date of receipt of the incomplete grade in which to complete the course, or the instructor may establish an earlier deadline. If special circumstances exist, which prevent the student from completing the course in the prescribed time, the incomplete may be extended with approval of the instructor, the instructor's chair or division head, and the instructor's dean. If the student satisfactorily completes the course in the prescribed time he/she will receive a letter grade. If the student fails to complete the course requirements during the stipulated time, the grade of *I* changes to a grade of *F*.”

- *The Greenbook, Marshall University*

**Course Evaluation:** Students will be evaluated through :

- (1) laboratory activities maximum 350 points (maximum 25 points each lab);
- (2) a test (Exam One) on lecture materials and lab notes maximum 100 points;
- (3) a test (Exam Two) on student presentations and lab notes maximum 100 points;
- (4) selected topic and references (11 total – 10 real science and 1 false science) for Assignments 1 – 4. Submitted to MU Online as a Word Document. maximum 50 points;\*\*

(5) Assignment I - design an experiment - scientific lab report related to the chosen topic. Students will make observations, develop hypotheses, design experiments, collect data and draw conclusions. Submitted as a Word document to MU Online. maximum 100 points; \*\*

(6) Assignment II - comparative critique of two papers(studies) related to the chosen topic - 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 MU Online. maximum 100 points;\*\*

(7) Assignment III - written synthesis (report) based on 3 or more references emphasizing scientific findings and the strength of those findings related to the chosen topic. Minimum 3 pages, double spaced, submitted as a Word document to MU Online. maximum 100 points; \*\*

(8) Assignment IV - oral presentation summarizing scientific research related to the chosen topic based on a minimum of 3 additional scientific references. Minimum 10 minutes, submitted as Power Point to MU Online. maximum 100 points; \*\*

A total of 1,000 points is possible.

|         |           |                     |
|---------|-----------|---------------------|
| Grades: | A 90-100% | 900 to 1,000 points |
|         | B 80-89%  | 800 to 899 points   |
|         | C 70-79%  | 700 to 799 points   |
|         | D 60-69%  | 600 to 699 points   |
|         | F < 60%   | 0 to 599 points     |

\*\* Assignments I, II, III and IV are College of Science requirements, must pertain to the topic and references chosen by the student, and must be submitted to MU Online to successfully complete the course.

#### COURSE OUTLINE AND SCHEDULE

PLEASE NOTE: Assignments and their submission deadlines to MU Online and cutoff dates for submission are underlined, are detailed below and will be enforced. Late submissions to MU Online will be accepted with penalty until the cutoff. After the cutoff, MU Online will not allow submissions. If there is no submission properly received by the cutoff, no credit will be recorded for that assignment.

**Tests are in bold.**

| Labs                | Lectures   |
|---------------------|--|
| Week 1 1/10 - Lab 1 | 1/11 - syllabus, get acquainted, environmental scientist |
|                     | 1/13 - explanation of assignments                        |

Week 2 1/17 – No Lab

1/18 - scientific method, critical thinking

1/20 - basic science concepts

Week 3 1/24 – Lab 2

1/25 – basic ecology concepts

1/25 - Topic & references for Assignments I, II,III, & IV submitted to MU Online by 10 pm.

1/27 - matter, energy, systems

1/27 - Cutoff for topic and references at 10 pm.

Week 4 1/31 - Lab 3

2/1 - population, biodiversity

2/3 - food/hunger/nutrition

2/3 - Assignment I - Design of Experiment submitted to MU Online by 10 pm.

Week 5 2/7 - Lab 4

2/8 - earth and crust, soil, land use, land biomes

2/10 - water, water biomes

2/10 - Cutoff for Assignment I at 10 pm.

Week 6 2/14 - Lab 5

2/15 - water pollution / treatment

2/17 - air, weather, climate, climate change

2/17 - Assignment II - Critique submitted to MU Online by 10 pm.

Week 7 2/21 - Lab 6

2/22 – air pollution / treatment

2/24 - environmental health, risk

2/24 - Cutoff for Assignment II at 10 pm.

Week 8 2/28 - Lab 7

3/1 – solid waste

3/3 - recycling, composting

3/3 - Assignment III - Synthesis submitted to MU Online by 10 pm.

Week 9 3/7 - Lab 8

3/8 - sustainability

3/10 - local environmental issues

3/10 - Cutoff for Assignment III at 10 pm.

Week 10 3/14 - Lab 9

3/15 - review

3/17 - **Exam One**

3/18 - Last day to withdraw from individual course

Week 11 – Spring Break No lab on 3/21. No classes on 3/22 and 3/24.

Week 12 3/28 - Lab 10

3/29 - Ten-minute student presentations begin –

schedule TBA

3/31 – Presentations continue.

Week 13 4/4 - Lab 11

4/5 – Presentations continue

April 6 is University Assessment Day; students are encouraged to participate.

4/7 – Presentations continue.

4/7 - Assignment IV - Power Point submitted to MU Online by 10 pm.

WV Schools Sustainability Summit will be hosted by MU on campus in April.

Week 14      4/11 - Lab 12                      4/12 – Presentations continue.

4/14 - Presentations continue.

4/14 - Cutoff for Assignment IV at 10 pm.

Week 15    4/18 - Lab 13                      4/19 - Presentations continue.

4/21 - Presentations continue.

Week 15    4/25 - Lab 14                      4/26 – Presentations continue.

4/28 – Presentations continue. Review

5/5 – **Exam Two** 8 – 10 am.

The course officially closes at 10 a.m., Thursday, 5/5. No work submitted after that time will be considered or graded.

*Below are the titles of labs which are typically conducted. The exact order is dependent upon weather and other factors. All labs have an activity to be turned in for credit. The lab title will be announced at each lab.*

*Grade/Point Plan, Scientific References, Experiment, Land Use, EIAG, Plants / Trees, Plan Earth Day, Campus Observation, Stream Assessment, Risk Assessment, Energy, Biodiversity, Environmental Problem Solving, Compost, Sustainability, Ecotourism*