Global climate change is a unique issue in that it is biospheric in nature, meaning it will impact all people, all societies and all ecosystems. It also provides arguably the greatest challenge currently facing humanity over the coming decades. That challenge also represents unique opportunities for involving many individuals, groups and nations in coming up with innovative solutions that can help mitigate some of the most severe impacts climate change will impose upon humanity. This online laboratory course will use at-home investigations, Internet-based applications, data sets, and employ a variety of technology enabling features associated with Canvas learning management system.

Global Climate Change is a complex issue that blurs disciplinary boundaries in showing the interconnected relationship between humans and the structures/systems we have created and our natural environment and the structures/systems that underlie it. Although this is a lab course, it will be different from others in covering and combining a number of disciplines including earth sciences, chemistry, physics, ecology, economics, biogeochemistry, environmental science as well as social science aspects.

This one credit laboratory course is an introduction to environmental science and sustainability. Students will have hands-on experience in identifying and analyzing different environmental problems related with air, water pollution and environmental degradation. Furthermore, students will learn about the interdependence of ecosystems such as the impacts of excessive fertilizer or nutrient usage in agricultural systems, which can result in both surface and ground water pollution. Students will also learn how individual consumption patterns can make a difference in energy use, diminishing waste and market influence, to differentiate between indoor and outdoor pollution, and how to reduce these.
Course Objectives

Students will be able to:

- demonstrate knowledge of the interrelatedness of local, global, international, and intercultural issues, trends, and systems;
- understand the scientific information and key concepts that underlie climate change, and incorporate current events and new scientific information into what they have learned to foster critical thinking on future global climate change;
- develop a multi-perspective analysis of local, global, international, and intercultural problems;
- analyze climate change from multiple perspectives (different people, nations, cultures) including analysis of responsible parties and how impacts will affect both the natural and global systems; and
- demonstrate a willingness to analyze their own personal connection and responsibility regarding global climate change including exploring the range of possible solutions and take action.

Course Awards

Affordability Counts

This course has been awarded the Affordability Counts Medallion. The Affordability Counts initiative at FIU seeks to make learning more affordable by reducing the cost of course materials to $60 or less. Find out more by visiting the Affordability Counts website at lowcost.fiu.edu.

IMPORTANT INFORMATION

Policies

Please review the FIU's Policies webpage. The policies webpage contains essential information regarding guidelines relevant to all courses at FIU, as well as additional information about acceptable netiquette for online courses.

Grading for this course will be based on lab reports, two exams, environmental shopping, campus audit project paper and discussions. Be sure to follow the schedule of events in order to stay current in the course.

FIU Code of Academic Integrity

This Code of Academic Integrity was adopted by the Student Government Association on November 28, 2001 and reflects the values articulated in the Student Code of Standards.
Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of Florida International University. [http://www2.fiu.edu/~oabp/misconductweb/1acmisconductproc.htm](http://www2.fiu.edu/~oabp/misconductweb/1acmisconductproc.htm)

**Statement for Access**

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190. [http://drc.fiu.edu/](http://drc.fiu.edu/). It is the responsibility of each student to work with the Center and Instructor to make arrangements as needed for their accommodations.

**Course Late Assignment Policy**

All assignments submitted after the assignment due date are subject to the following deductions.

<table>
<thead>
<tr>
<th># of Days Late</th>
<th>Deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 2</td>
<td>10%</td>
</tr>
<tr>
<td>3 - 5</td>
<td>15%</td>
</tr>
<tr>
<td>7 - 10</td>
<td>20%</td>
</tr>
<tr>
<td>10 - 14</td>
<td>25%</td>
</tr>
<tr>
<td>&gt; 14</td>
<td>Cannot be submitted</td>
</tr>
</tbody>
</table>

You must contact your instructor before attempting late assignments.

**Online Assessment Issues Policy**

If you encounter a problem when conducting an assessment (e.g., exam, quiz, discussion, etc.) and/or have problems uploading documents to the assignment drop box, then you must contact FIU online for assistance. They will contact me with additional instructions at which point a determination will be made regarding the next course of action. There is no exception to this policy.

**Technical Requirements and Skills**

One of the greatest barriers to taking an online course is a lack of basic computer literacy. By computer literacy, we mean being able to manage and organize computer files efficiently, and
learning to use your computer's operating system and software quickly and easily. Keep in mind that this is not a computer literacy course; but students enrolled in online courses are expected to have moderate proficiency using a computer. Please go to the "What's Required" webpage to find out more information on this subject.

Please visit our Technical Requirements webpage for additional information.

**Accessibility and Accommodation**

Please visit our ADA Compliance webpage for information about accessibility involving the tools used in this course. For additional assistance, please contact FIU’s Disability Resource Center. If you have special accommodations with the Disability Resource Center (DRC), then you must notify me during the start of the semester.

**Course Prerequisites**

This course has a co-requisite(s). Review the Course Catalog webpage for prerequisites information.

This course serves as the lab for the companion lecture course and must be taken with it to fulfill the “Physical Sciences” category of natural sciences requirement for the University Core Curriculum. The objectives of the lab are similar to those of the lecture course but in the lab students are offered laboratory based experiences with many of the topics covered in the lecture.

Life Science Core Curriculum Course Competencies: The lab course will help satisfy the UCC science core competency with respect to helping students apply the scientific method by conducting experiments to test scientific hypotheses. Students will be assessed in this competency by answering embedded questions within their lab reports.

**Academic Misconduct Statement**

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.

Academic Misconduct includes: **Cheating** – The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. **Plagiarism** – The use and appropriation of another’s work without any indication of the source and the representation of such work as the student’s own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet sources, is responsible for plagiarism.
Learn more about the academic integrity policies and procedures as well as student resources that can help you prepare for a successful semester.

Proctored Exam Policy
This online section does not require an on-campus exam.

Textbook
There is no textbook required for this course.

All lab manuals, class lectures, and background information will be posted in Canvas under each week's tab. It is your responsibility to read the assigned material beforehand.

An Open Educational Resource (OER) is provided for reference. Be advised, the course was not developed using this book.

6. AP Environmental Science, by University of California, University of California College Prep

Expectations of This Course
This is an online course, which means most (if not all) of the course, work will be conducted online. Expectations for performance in an online course are the same for a traditional course. In fact, online courses require a degree of self-motivation, self-discipline, and technology skills, which can make these courses more demanding for some students.

Students are expected to:

- Review the how to get started information located in the course content
- Introduce yourself to the class during the first week by posting a self-introduction video in the appropriate blog
- Take the practice quiz to ensure that your computer is compatible with Canvas
- Interact online with instructor/s and peers
- Review and follow the course calendar
- Log in to the course at least five (5) times per week
- Respond to discussion boards, blogs and journal postings within: Introduction, Procedures, and Hypothesis in three (3) days and hypothesis analysis by the seventh (7) day.
- Respond to messages within no more than two (2) days
- Submit assignments by the corresponding deadline

The instructor will:

- Log in to the course at least five (5) times per week
- Respond to discussion boards within two (2) days
- Respond to messages within 2 days (48 hours)
- Grade assignments within ten (10) days of the assignment deadline.

COURSE DETAIL
Course Communication
Communication in this course will take place via messages.
Messages is a private and secure text-based communication system, which occurs within a course among its Course members. Users must log on to send, receive, or read messages. The Messages tool is located on the Course Menu, on the left side of the course webpage. It is recommended that students check their messages routinely to ensure up-to-date communication.

Visit our Writing Resources webpage for more information on professional writing and technical communication skills.

Course Labs (6 Total)

Individual Lab Report - Dropbox Assignment

Each student is required to compile data and summarize the results in a template. Each report will consist of a graph (e.g., pie chart, x-y scatter plot, histogram, etc.) and a written summary of any observable trends. The procedures for collection data and web content are provided in each weekly module. All reports will be submitted to an assignment dropbox.

Individual Lab Quiz - Assessment

Each student is required complete a lab quiz that covers all material posted and/or collected during the lab activities. The lab assessment will be completed in Canvas.

Assessments

In order to mitigate any issues with your computer and online assessments, it is very important that you take the "Practice Quiz" from each computer you will be using to take your graded quizzes and exams. It is your responsibility to make sure your computer meets the minimum hardware requirements.

Assessments in this course are not compatible with mobile devices and should not be taken through a mobile phone or a tablet. If you need further assistance, please contact FIU Online Support Services.

Assignments

• Community Assignment

Each student is required to participate in an off-campus activity during the semester. Each student will identify an Open Space Resource (i.e., Local Park) and a shopping development (i.e., mall, corner shopping center, etc.) in the community and compare the land use practices. The report shall focus on the vegetation coverage, uses of concrete asphalt, drainage, and the use of resources to maintain the properties. The goal of the project is to become familiar with the different land use practices in an urban setting.

• Environmental Shopping Assignment

This exercise is worth 10% of your final grade. The student(s) will be required to analyze products at a "typical" grocery store and discuss the environmental significance of different sizes, packaging styles, and/or alternative products. Instructions for this exercise will be given beforehand.

Exams and Quizzes
22. Exams (2) – Midterm and Final
23. Quizzes (8) - 6 Lab Quizzes, Safety/International Measurements, and Data Analysis/Graphs

In order to mitigate any issues with your computer and online assessments, it is very important that you take the "Practice Quiz" from each computer you will be using to take your graded quizzes and exams. It is your responsibility to make sure your computer meets the minimum hardware requirements.

Assessments in this course are not compatible with mobile devices and should not be taken through a mobile phone or a tablet. If you need further assistance, please contact FIU Online Support Services.

All exams are completed in Canvas. **No make-ups will be allowed for exams without a written excuse from a doctor, parent, or legal guardian.** For more information, contact me.

Adobe Connect Pro Meeting
Adobe Connect is an online meeting room where you can interact with your professor and fellow students by sharing screens, sharing files, chatting, broadcasting live audio, and taking part in other interactive online activities. We will be utilizing this tool to conduct online office hours.

Meetings will be available on Wednesdays from 1pm - 3pm

Requirements for using Adobe Connect:

- Disable any window pop-up blocker.
- **Adobe Flash Player** is required to successfully run your Adobe Connect meeting. You can [test your computer](#) to make sure your computer and network connections are properly configured to provide you with the best possible Adobe Connect meeting experience.
- Use of a combination [headset and microphone](#) with USB connection is recommended to ensure quality sound and reduce technical difficulties.

Reference [Adobe Connect (Tutorials & Help)](#) to learn about the tool, how to access your meeting rooms and recordings.
## Grading

<table>
<thead>
<tr>
<th>COURSE REQUIREMENTS</th>
<th># of Items</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduce Yourself Video Blog</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Assessments (6 Lab Quizzes, Safety/Measurements &amp; Data Analysis/Graphs)</td>
<td>8</td>
<td>25%</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>6</td>
<td>30%</td>
</tr>
<tr>
<td>Exams</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Community Assignment</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>Environmental Shopping</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>Extra Credit</td>
<td>1 (Optional)</td>
<td>Up to 5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LETTER</th>
<th>RANGE</th>
<th>LETTER</th>
<th>RANGE</th>
<th>LETTER</th>
<th>RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93% - 100%</td>
<td>B</td>
<td>83% - 86%</td>
<td>C</td>
<td>70% - 76%</td>
</tr>
<tr>
<td>A-</td>
<td>90% - 92%</td>
<td>B-</td>
<td>80% - 82%</td>
<td>D</td>
<td>60% - 69%</td>
</tr>
<tr>
<td>B+</td>
<td>87% - 89%</td>
<td>C+</td>
<td>77% - 79%</td>
<td>F</td>
<td>&lt; 60%</td>
</tr>
</tbody>
</table>
# COURSE CALENDAR

## Module Weekly Schedule

<table>
<thead>
<tr>
<th>Unit 1 - Lab Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
</tr>
<tr>
<td>Read/Review:</td>
</tr>
<tr>
<td>- Course Syllabus</td>
</tr>
<tr>
<td>- Unit 1 Course Overview Videos</td>
</tr>
<tr>
<td><strong>Assignments:</strong></td>
</tr>
<tr>
<td>29. Upload Introduce Yourself Video</td>
</tr>
<tr>
<td>30. Complete Course Practice Quiz</td>
</tr>
</tbody>
</table>

| Week 1 | August 20-26 |
|---------------------|
| **Safety & International Systems of Measurement** |
| Read/Review:         |
| - Safety Videos      |
| - Introduction to OSHA |
| - EVR 1001L Laboratory Safety and Conduct Form |
| **Assignments:**     |
| 31. Safety & International Systems of Measurement Assessment |

| Week 2 | August 27-September 2 |
|---------------------|
| **Group and Lab Preparation** |
| Read/Review:         |
| - Review data collection and analysis module. |
| - Review sample lab report and group information. |
| - Review Plagiarism information. |
| **Assignments:**     |
| 32. Review all Information |
## Unit 2 - Local Awareness

### Week 4
**September 10-16**

**Panther Lab**

**Read/Review:**

- Contact Lab Partners (See EVR 1001L Lab Groups)
- Read laboratory information.
- Get familiar with the location of Okaloacoochee Slough State Forest
- Watch YouTube Videos

*Suggested Readings: Chapter 9 (Population Ecology) and Chapter 10 (Community Ecology) of the text.*

**Assignments:**

33. Individual Lab Report (*Dropbox Assignment*) - Due by Monday of following week
34. Individual Lab Quiz (*Assessment*) - Due by Monday of following week

### Week 5
**September 17-23**

**Domestic Water Use Lab**

**Read/Review:**

- Read laboratory information.
- Watch YouTube videos

*Suggested Readings: Chapter 14 (Freshwater Resources) and Chapter 15 (Water Pollution) of lecture text.*

**Assignments:**

35. Individual Lab Report (*Dropbox Assignment*) - Due by Monday of following week
36. Individual Lab Quiz (*Assessment*) - Due by Monday of following week

### MidTerm
**Week 6**
**September 24-30**

**Midterm Exam**

**Assignments:**

- Complete Midterm Exam. Exam is individually completed.
### Unit 3 - Air Pollution

#### Air Quality and Pollution Lab

**Read/Review:**
- Read laboratory information.
- Watch YouTube Videos

*Suggested Readings: Chapter 20 (Air Pollution) of the text.*

**Assignments:**
- 36. Individual Lab Report *(Dropbox Assignment)* - Due by Monday of following week
- 37. Individual Lab Quiz *(Assessment)* - Due by Monday of following week

#### Acid Rain Lab

**Read/Review:**
- Read laboratory information.
- Watch YouTube Videos

*Suggested Readings: Chapter 20 (Air Pollution) of the text.*

**Assignments:**
- 38. Individual Lab Report *(Dropbox Assignment)* - Due by Monday of following week
- 39. Individual Lab Quiz *(Assessment)* - Due by Monday of following week

### Unit 4 - Energy

#### Renewable Energy Lab

**Read/Review:**
- Read laboratory information.
- Watch Videos

*Suggested Readings: Chapter 23 (Sustainable Energy for Stationary Sources)*

**Assignments:**
- 40. Individual Lab Report *(Dropbox Assignment)* - Due by Monday of following week
- 41. Individual Lab Quiz *(Assessment)* - Due by Monday of following week
### Unit 4 - Energy

#### Week 10
October 22-28

**Batteries Lab**

**Read/Review:**
- Read laboratory information.
- Watch Weekly Videos

**Assignments:**

42. Individual Lab Report *(Dropbox Assignment)* - Due by Monday of following week
43. Individual Lab Quiz *(Assessment)* - Due by Monday of following week

### Unit 5 - Practical Experience

#### Weeks 11 & 12
October 29 - November 11

**Community Assignment - (2 Week Assignment)**

**Read/Review**
- Read Laboratory Information
- Watch all unit videos *(if applicable)*

**Assignment**
- Visit both locations and collect information
- Submit completed assignment to Dropbox

#### Weeks 13 & 14
November 12 - 25

*Environmental Shopping Assignment - (2 Week Assignment)*

**Read/Review**
- Read Laboratory Information
- Watch all unit videos *(if applicable)*

**Assignments:**

44. Go to the Supermarket
45. Complete Lab Activity individually

### Final Exam

#### Week 15 & 16
November 26 - December 8

**Final Exam**

**Assignments:**
Final Exam

- Complete Final Exam. Exam is individually completed.