GENERAL INFORMATION

PROFESSOR INFORMATION

Instructor: Robert Burgman
Phone: (305) 348-6395
Office: AHC-5, 362
Office Hours: MWF 1-3pm, By Appointment
E-mail: rburgman@fiu.edu
Website: http://faculty.fiu.edu/~rburgman/
Time: Monday, Wednesday, Friday, 10:00PM - 10:50PM
Location: AHC5-357

COURSE DESCRIPTION AND PURPOSE

This course focuses on the physical processes that govern Earth’s Climate. We will begin with an introduction of the global energy balance and the interactions between incoming solar radiation and the earth’s atmosphere and surface followed by a description of the basic structures and general circulation of the atmosphere and ocean circulations. Finally, we will consider climate variations on many time-scales.

COURSE OBJECTIVES

1. Introduce the students to the processes that maintain Earth’s climate based on physical principles
2. Understand global energy balance.
3. Examine the general circulation of the atmosphere
4. Examine the general circulation of the oceans and cryosphere
5. Understand the hydrologic cycle
6. Discuss global scale climate variability such as El Niño
7. Examine causes for climate change, (climate feedback mechanisms)
8. Understand how humans are affecting the Earth’s climate

COURSE PREREQUISITES
Prerequisites: PHY 2054 or PHY 2049.

TEXTBOOK

Global Physical Climatology
Dennis L. Hartmann
Elsevier Science; 1 edition
ISBN-10: 0123285305
You may purchase your textbook online at the FIU Bookstore.

EXPECTATIONS OF THIS COURSE

This is a traditional lecture based course, which means attendance is mandatory. It has been my experience that performance in these types of classes is directly linked to attendance.

Attendance: Required.
Students who participate in University-sanctioned events (athletic events, debates, performances, etc.) must inform me in advance of any event that will conflict with class time, and they must make up any work they missed.

Make-up homework and examinations:
You are required to be present for exams on the days exams are scheduled. In extraordinary circumstances, I will reschedule an exam for an individual, but only if I am notified in advance of the exam. I will also accommodate legitimate, verifiable cases of illness and emergencies (and religious holidays).

Submission of assignments after assigned dates will result in reduction of 5 percentage points (or the letter grade equivalent) for each day late.

COURSE DETAIL

COURSE COMMUNICATION

I will communicate with the class via the email address assigned to you by FIU. All correspondence sent should include “MET3102” in the subject line. Expect the class webpage to contain the most up to date information regarding the class. Check the website often.

ELECTRONIC DEVICES IN THE LECTURE HALL

Please turn off all cellular telephones and pagers during class time – this includes text messaging. If your work situation requires that you be on call, please notify the instructor prior to class. Text messaging is not permitted in this class. You are only permitted to use a laptop during class to take notes, or to access resources related to the course such as the power points, web links, Google Earth, or the e-text. Laptops may not be used during class time to answer email, browse the web, listen to music, or any other activity not related to class. If you are using your laptop for one of
these unauthorized activities, I may simply note who you are and contact you after class rather than interrupting the class to notify you. If you are disrupting other students you will be asked to leave the lecture hall.

ASSIGNMENTS AND QUIZZES

Quizzes will be given during over the course of the semester to determine how the class (and the instructor) is performing. Assignments will be in the form of group projects. Every student in the group is expected to contribute.

COURSE CALENDAR

<table>
<thead>
<tr>
<th>WEEKLY SCHEDULE</th>
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<tbody>
<tr>
<td><strong>Week Starting</strong></td>
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| Aug. 20 | Introduction to the Climate System  
*Tasks: Read Chapter 1* |
| Aug. 27 | The Global Energy Balance:  
*Tasks: Read Chapter 2* |
| Sep. 3 | Atmospheric Radiative Transfer and Climate:  
*Tasks: Read Chapter 3* |
| Sep. 10 | Atmospheric Radiative Transfer and Climate:  
*Tasks: Read Chapter 3* |
| Sep. 17 | The Energy Balance of the Surface  
*Tasks: Read Chapter 4* |
| Sep. 24 | The Hydrologic Cycle:  
*Tasks: Read Chapter 5* |
| Oct. 1 | Atmospheric General Circulation and Climate:  
*Tasks: Read Chapter 6* |
| Oct. 8 | The Ocean General Circulation and Climate:  
*Tasks: Read Chapter 7* |
| Oct. 15 | The Ocean General Circulation and Climate:  
*Tasks: Read Chapter 7* |
| Oct. 22 | History and Evolution of Earth’s Climate: |
Tasks: Read Chapter 8

Oct. 29
Climate Sensitivity and Feedback Mechanisms:

Tasks: Read Chapter 9

Nov. 5
Global Climate Models:

Tasks: Read Chapter 10

Nov. 12
Natural Climate Change:

Tasks: Read Chapter 11

Nov. 19
Anthropogenic Climate Change:

Tasks: Read Chapter 12

Nov. 26
Anthropogenic Climate Change:

Tasks: Read Chapter 12

Dec. 3
Final Exam: Dec 3, 2018  9:45-11:45am

GRADING

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<tbody>
<tr>
<td>Exams</td>
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<tr>
<td>Discussion/Participation</td>
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<td>5%</td>
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<tr>
<td>Assignments/Quizzes</td>
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<td>20%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
<td><strong>100%</strong></td>
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<td>B</td>
<td>83 - 86</td>
<td>C</td>
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<td>80 - 82</td>
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<tr>
<td>B+</td>
<td>87 - 89</td>
<td>C+</td>
<td>77 - 79</td>
<td>F</td>
<td>59 or less</td>
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IMPORTANT INFORMATION

POLICIES

Please review the FIU's Policies webpage. The policies webpage contains essential information regarding guidelines relevant to all courses at FIU.
ACCESSIBILITY AND ACCOMMODATION

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.

Please visit our ADA Compliance webpage for information about accessibility involving the tools used in this course.

Please visit Blackboard's Commitment Accessibility webpage for more information.

For additional assistance please contact FIU's Disability Resource Center.

IMPORTANT LINKS

University drop dates / calendar
University's Code of Academic Integrity
University policies on sexual harassment and religious holidays

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT

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 to honestly 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.

CHANGES TO SYLLABUS

I retain the right to modify the course syllabus for any reason throughout the semester provided that: fair and adequate notice is given to enrolled students either by e-mail, in writing, or through online publishing; modifications to the syllabus are not arbitrary or capricious; and students are not unfairly disadvantaged by mid-semester changes to grading standards, attendance standards, or performance measures.