

Syllabus – Spring 2014
IDS 3211c: Global Climate Change: Science, Society and Solutions
Section U05: TuTh 9:30 am – 10:45 am (SCH. INTER.&PUBLIC AFFAIRS 100)

This is a team-taught course. Instructors from the Department of Earth & Environment are:

Professor Haiyan Jiang

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Office Hours: Tu/Th 12:30-1:30 pm

Professor Patricia Houle

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Office Hours: Friday 2:30 pm to 4:00 pm

- You may contact either instructor if you have any questions or concerns about the class.

Course Description:

Environmental concerns have become increasingly important in our world. Much of this is due to the fact that not only does society affect its natural environment—but our natural environment affects us as well. Perhaps the best example to this scenario is the phenomenon of global climate change and the social, ethical, economic and political as well as environmental consequences that will result from it.

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 in coming up with innovative solutions that can help mitigate some of the most severe impacts climate change will impose upon humanity.

Global Climate Change: Science, Society and Solutions will seek to examine these themes through an interdisciplinary lens that includes physical, natural and social science aspects. Our class will address the core topics which are central to understanding global climate change. We will begin with an examination of “Climate Change Basics.” This section will provide you with the fundamental scientific understanding you need by examining the scientific principles and concepts that underlie climate change. The scientific method and its application will be central to your knowledge of climate change. They will serve as the basis for “Climate Change and Predictions and Impacts,” which follows. We will examine what climate change will mean from a global perspective—examining ecosystems and people around the world in highlighting vulnerabilities. This section will also focus on how changing environmental conditions can affect social conditions (for example, drought-like conditions leading to war over water rights). We will conclude with a section on “Climate Change Solutions,” which will discuss how the world arrived at the point we are at and what can be done about it, including current and future strategies.

Course Designation:

This course counts as a Global Learning Foundations Course or as a Global Discipline Specific Course and fulfills the requirement for the University Core Curriculum Natural Sciences category, Physical Sciences sub-category. There is a lab component as well that is required for the UCC.

Required Books:

Dire Predictions: Understanding Global Warming (2008) by Michael E. Mann and Lee R. Kump is used for Professor Jiang's teaching. This book is available to purchase online and will be in the bookstore within two weeks of the beginning of the class.

The Global Warming Reader: A Century of Writing about Climate Change (2011) by Bill McKibben. This book is used for Prof. Houle's section of the class. Note: The e-book version may not have all the figures from the print edition.

Other books, articles or readings from the Internet may be assigned as needed. An announcement will be made in class at the time the assignment is made. These readings will be available from the library, Internet or posted in Blackboard.

Online Course Materials

Powerpoint presentations and additional course readings will be available on two sites for this course. Prof. Jiang's powerpoints and other materials will be available at <http://faculty.fiu.edu/~hajian/IDS3211C/IDS3211C.html>. There will also be a link to this website on Blackboard. For Prof. Houle's sections of the course, all materials will be on Blackboard.

Responsibilities:

This is a blended class with both in-class and on-line learning activities. Frequent reliable access to the learning management system Blackboard Learn 9 is required for this class. Many class activities with deadlines will be carried out in this system. *Lack of Internet access will not be an excuse for missed assignments. Plan ahead.*

Attendance is mandatory! The instructor is **not** responsible for removing students from the class roster. If anyone wishes to drop the class, they must do so through <http://my.fiu.edu> prior to the drop deadline.

As the Instructors, It is our responsibility to organize, prepare and provide the content for this course. We will clearly state the guidelines for the course in this syllabus and put our best efforts into completing grading and responding to inquiries in a timely manner. We will promote a culture of courtesy and respect in the classroom that offers each student an opportunity to question, discuss and learn within the limitations of the classroom. We will be available during office hours and by email to discuss your questions about the course.

Students have the responsibility to:

- Read this syllabus during first week of class and keep up with class announcements
- Arrive at class on-time and remain until the end of class, out of consideration to the Instructor and the other students
- Complete class preparations, readings and assignments when due, following the syllabus and announcements in class and in Blackboard
- Participate in class discussions, ask questions and reflect on the topics under consideration
- Follow classroom policies for electronic devices
- Refrain from private conversations in class

- Learn from the diverse group of people in this class by listening and considering what each person says and writes. You may disagree, but it must be in a way that shows respect and values each person.

Laptop Computer/Tablet/cellphone Usage:

Technology is a great tool to facilitate learning in the classroom; however, it can also be a distraction to both the Instructor and other students. If your computer usage disrupts the class, you will be asked to turn off the computer.

Students are not allowed to use their cellphones in class. They must be put away and set on vibrate mode. Students violating this policy will be asked to leave the class.

Turn-it-In

To verify the originality of the work, certain assignments will be submitted for grading to www.turnitin.com by way of a link in Blackboard Learn. Such assignments must be your original individual effort, and any sources used **must be cited**. **No credit** will be given if the assignment has not been submitted to Turnitin, it lacks sources or there is evidence of a lack of originality. Assignments will be archived at the Turnitin website. Additional details will be provided in class.

Important! Cheating, plagiarism and other forms of academic dishonesty are very serious forms of academic misconduct and will not be tolerated. University policies for academic misconduct are very strict, and the results of cheating and/or plagiarism can be a failing grade or ultimately expulsion from the University.

Plagiarism

All of the Following are Considered Plagiarism:

- Turning in someone else's work as your own.
- Copying words or ideas from someone else without giving credit.
- Failing to put a quotation in quotation marks.
- Giving incorrect information about the source of a quotation.
- Changing words, but copying the sentence structure of a source without giving credit.
- Copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not.

FIU's Definition of Academic Misconduct

Academic Misconduct in regards to cheating and plagiarism are defined in the FIU student handbook as:

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. Any student helping another cheat may be found guilty of academic misconduct.

Plagiarism: The deliberate 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 guilty of plagiarism. Any student helping another to plagiarize may be found guilty of academic misconduct.

Course Activities:

Teams: Students will be organized into teams. Team activities will occur throughout the semester leading to a team role-playing exercise at the end of the semester.

Exams – 45% of grade

There will be 4 in-class exams covering about 1/4 of the course material each. Questions can include multiple choice, short answer, matching or essay types. Topics included in exams will be announced in class. Your lowest exam grade will be dropped when calculating the final grade. **There will be no routine makeup exams.** (Exceptions will be made **only** for active military service, jury duty, hospitalizations and student athletes at away games – proof required).

Team Role-Playing Exercise – Climate Change Summit – 20% of grade

You will be required to take part in a team-based role-playing exercise where teams will represent different countries/peoples that have a stake in the Climate Change Summit. For example your group might represent Small Island Nations as a whole, India, Russia, the United States, the European Union, Japan, the Middle East, China, Brazil, Saudia Arabia, Canada, etc.

Criteria for grading this activity are: Average of the Group class presentation and group paper multiplied by the team peer evaluation. In other words if your team peer evaluation is 100%, you will receive 100% of the credit for the paper and presentation. If your team peer evaluation is 50%, then you will receive 50% of the credit for the paper and presentation. Each student will receive an individual grade. A fuller description and guidelines for the role-playing exercise will be provided.

Class activities– 10% of grade

Class activities can include in-class activities, discussion or quiz. Attendance will be taken each class. Good attendance can earn you extra consideration in your final grade.

Co-Curricular Activity – 10% of grade

You will need to participate in **one** on-campus or off-campus activity during the term. This can be a service activity related to climate change in some way, or it can be attending a publically offered lecture, film or training session on climate change. It must be at least three hours in length. In addition to your participation in the activity or attending the event, we will require you submit a paper regarding your experience as well. This will comprise 10% of your overall grade (5% for your participation in the activity or attendance at the event and 5% for your paper/write-up).

Reflection Essays – 15% of grade

You will be asked to read or view materials concerning climate change. This can be a news story, blog, government report, work of fiction or video. You will be asked to write a 800-900 word essay to submit to turnitin via Blackboard. There will be two essays in the second half of the course. Details will be announced in class. Your final grade for the Reflection Essay will be the average grade for the two essays.

Course Grading

Grades earned for each activity will be posted as percentages. To determine final grades, first calculate the average percentage for each activity, then apply the formula below:

Exam Ave*0.45+Summit*0.2+Activities Ave*0.1+Co-Curricular Act*0.1+Essay*0.15 = Final Percentage

Corresponding letter grades for final percentages are:

A=95-100%; A-=90-94%; B+=87-89%; B=84-86%; B-=80-83%; C+=77-79%; C=70-76%; D=60-69%; F<60%

Extra Credit

You may participate in one additional co-curricular activity to earn extra credit. You must follow the instructions above. The extra credit will be an extra 5% added to your class activities percentage.

Global Learning Outcomes and Assessments

Students will be assessed for the following Global Learning Outcomes with specific course outcomes listed below them.

Global Awareness— Students will be able to 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.

- An understanding of the scientific foundation and key concepts that underlie global climate change;
- Recognition of current predictions regarding global climate change;
- The ability to take new scientific information on the topic and integrate it into what they have learned in class to enhance critical thinking;
- Awareness of climate change impacts, including possible meanings for both the natural(ecosystems/environment) and the social world (people/nations); and
- The ability to incorporate current events into the greater context of future climate change impacts

Assessments for Global Awareness will take the form of embedded test questions of in-class exams.

Global Perspective—Students will be able to 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.

- Comprehension of the many causes and responsible parties that have contributed to global climate change;
- The ability to analyze climate change from the perspectives of other people and nations via role playing exercises; and
- The ability to determine how climate change will affect the natural and global environment and its systems.

Assessment for Global Perspective will take the form of a group-based role playing exercise (Climate Change Summit) in which students will represent the perspectives/positions of different nations/peoples when it comes to climate change (looking at causes, impacts and possible solutions). Students will give a presentation and submit a paper, both of which will be evaluated by a rubric.

Global Engagement— Students will demonstrate a willingness to analyze their own personal connection and responsibility regarding global climate change including exploring the range of possible solutions.

- The ability to discover their own connection and personal responsibility regarding the causes of climate change via calculating their own carbon footprints;
- An understanding of possible solutions (via case studies from different countries) to climate change;
- The ability to discover their own possible solutions to global climate change and their relevance for wider applications.

Assessment for Global Engagement will take the form of active participation in a service learning/co-curricular activity either on or off-campus in which students will engage in activities designed to reduce their carbon footprints. Students will submit an essay describing the experience which will be evaluated by a rubric.

Notice:

If a student has a disability and needs assistance with class, please contact the Disability Resource Center (GC 190; 305-348-3532). It is the responsibility of each student to work with the Center and Instructor to make arrangements for the classroom and course activities as needed for their accommodations.

This syllabus and course schedule may be updated, if needed. An announcement of changes will be made in class and in Blackboard Learn 9.

Course Schedule for IDS 3211c – Spring 2014

A= Dire Predictions; B=The Global Warming Reader

Additional readings may be assigned and will be posted in Blackboard

HJ=Prof. Haiyan Jiang, PH-Prof. Patricia Houle

Week	Class	Topics, Assignments, Activities	Class	Topics, Assignments, Activities
1	Jan. 7	Introductions-PH & HJ Syllabus and Introductions	Jan. 9	Climate Change Basics-HJ Weather, Climate, Climate system, World climate, Climate controls. Reading: P10-12 (A)
2	Jan. 14	Climate Change Basics-HJ Climate controls, Detecting climate change, Natural causes of climate change, Temperature record Reading: P18, P32-35, P40-43 (A)	Jan. 16	Climate Change Basics-HJ Atmosphere, What drives atmospheric motion, Earth's rotation: Coriolis effect, global atmospheric circulation Reading: P12-13 (A)
3	Jan. 21	Climate Change Basics-HJ Force and winds, Geostrophic balance, Hurricane Reading: P12-13, P56-57 (A)	Jan. 23	Climate Change Basics-HJ Climate and ocean currents, Surface currents, Deep ocean circulations Reading: P11, P49, P60-61 (A)
4	Jan. 28	climate summit project-PH Team set-up and project introductions	Jan. 30	Climate Change Basics-HJ Human impacts on climate change, Greenhouse effect; Water vapor and climate, Carbon cycle Reading: P14, P19, P22-23, P26-27 (A)
5	Feb. 4	Climate Change Basics-HJ Trace gases, Ozone layer and climate, Greenhouse gases on the rise. Reading: P28-35 (A) Exam 1 Review	Feb. 6	First Exam (will cover all information up to the exam date)
6	Feb. 11	Climate Change Projections-HJ Complication in climate change, system and feedback, Climate variability, ENSO. Reading: P24-25, P49-50, P90-91 (A)	Feb. 13	Climate Change Projection-HJ Extreme climate anomalies Reading: P48-54, P58-59 (A)
7	Feb. 18	Climate Change Projection-HJ Numerical modeling of Climate; Cloud-Aerosol-climate feedback Reading: P64-65; P18-19, P25, P31, P45, P78-85, P198 (A)	Feb. 20	Climate Change Projections-HJ Fossil-fuel emissions scenarios, IPCC; How will the climate change, sea level rising. Reading: P86-105 (A) Exam 2 Review

8	Feb. 25	Second Exam (will cover all information from the first exam up to the exam date)	Feb. 27	Overview of Climate Change Impacts-PH Reading: P46, 88, 274, 318 (B) Climate summit coordination.
9	Mar. 4	Welcome to the Anthropocene – PH Reading: P68, 292 (B)	Mar. 6	Climate Change Communication-PH Reading: P224-267 (B), Reflection essay 1 assignment
10	Mar. 11	Spring Break	Mar. 13	Spring Break
11	Mar. 18	Climate Change Mitigation –PH Reading: P 80, 126, 134, 284 (B)	Mar. 20	Guest Lecture (Dr. Johnson) Impacts of climate change on past societies Reflection essay 1 due in turnitin
12	Mar. 25	Adaptations to Climate Change-PH Reflection essay 2 assignment	Mar. 27	Third Exam (will cover all information from the second exam up to the exam date)
13	Apr. 1	Sea Level Rise Impacts-PH Reading: P83 (B)	Apr. 3	Impacts on Terrestrial/Marine Ecosystems-PH Reading: P376 (B)
14	Apr. 8	Health/Agricultural Impacts-PH Reading: P364, 400 (B) Reflection essay 2 due in turnitin	Apr. 10	Guest Lecture (?) Faith Communities and Climate Change Reading: P299-318 (B)
15	Apr. 15	Preparation/Climate Summit Presentation (1)	Apr. 17	Climate Summit Presentations (3)
16	Apr. 22	Fourth Exam (will cover all information from the third exam up to the exam date)	Apr. 24	Co-Curricular Activities and Extra Credit activities due in Blackboard Climate Summit Papers Due in turnitin