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<b>Course number</b>	EES 307/407 (4 credits)
<b>Course title</b>	Advanced Seminar in Climate and Environmental Change
<b>Term</b>	Fall 2015
<b>Meeting times and location</b>	Hutchison 329, Tuesday & Thursday 15:25-16:40pm

### Course Description

This seminar will focus on the IPCC 2013 Working Group I report (Physical Science Basis). The IPCC stands for Intergovernmental Panel on Climate Change and is the main international organization for assessing the current state of scientific knowledge for global climate change. The IPCC reports are a result of contributions from thousands of scientists from all over the world, and are a comprehensive summary of the current state of climate change research. The course will be conducted in a reading-and-discussion format. Students will be expected to lead some of the discussions as well as actively participate in all of the discussions.

### Prerequisites

At least 1 of EES 105, EES 212, EES 218 or EES 265, or instructor permission

### Textbook and/or Resource Material

IPCC 2013 Working Group I report, electronic version available for free at <http://www.ipcc.ch/report/ar5/wg1/>

### Grading Policies

35% presentations and discussions that you lead. 10% attendance. 25% participation in the discussions you don't lead. 30% quizzes.

**Chapter presentations and discussions:** The instructors will present the chapters in the first few weeks and set the tone for the discussions. In each of the following weeks, a group of 2 students would be responsible for presenting and leading the discussions on a given chapter. The instructors will provide guidance during preparation for this. The number of times you present will depend on the number of people in the course, but no more than 2 for undergraduates and 3 for graduate students. Everyone is expected to read all the chapters and contribute actively and constructively to the discussions. Graduate students will be held to a higher standard and will also be asked to submit a 1 – 2 page critique of the chapters they present.

**Attendance:** Because class presentations and discussions are the main part of the course, attendance is mandatory and part of your grade. Justifiable absences will not count against you.

**Quizzes:** At the start of each class, there will be a short quiz on the reading.

### Learning Goals

- Become very familiar with the IPCC and be able to effectively use it as a reference in the future
- Understand the major findings of each chapter
- Learn to effectively read dense scientific literature and extract key information
- Learn to effectively and concisely present the main concepts and findings from a chapter
- Learn how to lead and participate in an effective and engaging scientific discussion

### Instructor Information

<b>Name</b>	Professor John Kessler	Professor Vasilii Petrenko
<b>Office location</b>	Hutchinson Hall, Room 210	Hutchinson Hall, Room 228
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<b>Telephone number</b>	(585) 273-4572	(585) 276-6094
<b>Office hours</b>	By appointment	By appointment

### Americans with Disabilities Act (ADA)

Center for Excellence in Teaching and Learning (CETL), 107 Lattimore Hall, 585-275-9049  
<http://www.rochester.edu/college/cetl>

The Center for Excellence in Teaching and Learning (CETL) offers a variety of disability services for undergraduates and graduate students in Arts, Sciences & Engineering. These services aim to provide an inclusive experience and equal access to academic content and program requirements. Their approach relies on collaboration among students, CETL staff, and instructors. Students are invited to make an appointment to meet with a disability support coordinator to get acquainted and talk about classroom accommodations. CETL also provides transition support and self-advocacy skill development.

In addition, students can find information on other University accommodations and services, including transportation and campus accessibility at:  
<http://www.rochester.edu/ada/>

### Academic Honesty

All assignments and activities associated with this course must be performed in accordance with the University of Rochester's Academic Honesty Policy. A comprehensive description of the University of Rochester's Academic Honesty Policy is available at: [www.rochester.edu/college/honesty](http://www.rochester.edu/college/honesty). Unless otherwise noted, we encourage collaboration when studying and working on assignments. However, for this course the quizzes must be completed individually. We will also let you know of any other assignments that must be completed individually.

## Course Schedule

DATE	TOPICS	PRESENTER	READING	NOTES / LEAD INSTRUCTOR
Tue, Sep 1	Course Intro, Overview of IPCC	Vas		Vas (John away)
Thu, Sep 3	Basics of IPCC Report	Vas	Chapter 1	Vas (John away)
Tue Sep 8	Atmosphere and Surface Observations	Vas	Chapter 2 (1st part)	Vas; Sign up for chapters (John away)
Thu Sep 10	Atmosphere and Surface Obs	Vas	Chapter 2 (2nd part)	Vas (John away)
Tue Sep 15	Ocean Observations	John	Chapter 3 (1st part)	John
Thu Sep 17	Ocean Observations	John	Chapter 3 (2nd part)	John
Tue Sep 22	Observations: Cryosphere		Chapter 4 (1st part)	John (Vas away)
Thu Sep 24	Observations: Cryosphere		Chapter 4 (2nd part)	John (Vas away)
Tue Sep 29	Paleoclimate		Chapter 5 (1st part)	Vas
Thu Oct 1	Paleoclimate		Chapter 5 (2nd part)	Vas
Tue Oct 6	NO CLASS - FALL BREAK			
Thu Oct 8	Biogeochemical Cycles		Chapter 6 (1st part)	Vas
Tues Oct 13	Biogeochemical Cycles		Chapter 6 (2nd part)	Vas
Thu Oct 15	Clouds and Aerosols		Chapter 7 (1st part)	Vas
Tue Oct 20	Clouds and Aerosols		Chapter 7 (2nd part)	Vas
Thu Oct 22	Radiative Forcing		Chapter 8 (1st part)	Vas
Tue Oct 27	Radiative Forcing		Chapter 8 (2nd part)	Vas
Thu Oct 29	Climate Models		Chapter 9 (1st part)	Vas
Tue Nov 3	Climate Models		Chapter 9 (2nd part)	Vas
Thu Nov 5	Attribution of Climate Change		Chapter 10 (1st part)	John
Tue Nov 10	Attribution of Climate Change		Chapter 10 (2nd part)	John (Vas away)
Thu Nov 12	Near Term Projections		Chapter 11 (1st part)	John (Vas away)
Tue Nov 17	Near Term Projections		Chapter 11 (2nd part)	John (Vas away)
Thu Nov 19	Long Term Projections		Chapter 12 (1st part)	John (Vas away)
Tue Nov 24	Long Term Projections		Chapter 12 (2nd part)	John (Vas away)
Thu Nov 26	NO CLASS - THANKSGIVING			
Tue Dec 1	Sea Level		Chapter 13 (1st part)	John (Vas away)
Thu Dec 3	Sea Level		Chapter 13 (2nd part)	John (Vas away)
Tue Dec 8	Regional Climate Change		Chapter 14 (1st part)	John (Vas away)
Thu Dec 10	Regional Climate Change		Chapter 14 (2nd part)	John (Vas away)