CSPS119G: Science & Global Change Colloquium

SEMESTER II Life in the Anthropocene: Understanding a Human-Dominated World

Spring 2012

CCC1100 Tue, 3:30-4:50 pm

SGC Website: http://www.geol.umd.edu/sgc/

Online Syllabus: http://www.geol.umd.edu/sgc/syllabi/CPSP119G1101.html

ELMS Blackboard Website: http://elms.umd.edu/ Course ID: 201201_CPSP119G_THOLTZ

INSTRUCTORS:

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TEACHING ASSISTANT

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Office Hours: Centreville 1217, Monday 1-2 pm

NOTE: It is your responsibility as a student to completely read through and understand this syllabus. If you have questions about it, please contact Dr. Holtz or Dr. Merck. You will be held responsible for following all requirements of this syllabus.

COURSE ORGANIZATION: One meeting per week, three weekend field trips (one required), one Academic Showcase (mandatory).

REQUIRED READINGS: This semester there is only one required book:


Reading assignments must be done by the classtime listed.

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COURSE OBJECTIVES AND PHILOSOPHY: In an age when the activities of human society and technology can greatly affect Earth’s systems for decades, centuries, and even millennia to come, we must be able to evaluate the merits of ideas as they relate to the actual natural world, independent of our personal, political, or philosophical preconceptions. In this semester, students will be introduced to the components of the climate system and how they interact. They will discover how natural and anthropogenic factors shift these interactions, and what those changes mean for the inhabitants of the surface of the planet. They will examine the record of past climate changes from the scales of years to billions of years, and how study of these paleoclimate records shed light on future changes.

LEARNING OUTCOMES: By the end of the semester, every student should be able to:

- Identify the major factors which contribute to global climate systems, and predict in general how perturbations in these factors result in changes in climate.
- Understand how proxies of past conditions are used to reconstruct paleoclimates, and be able to interpret plots of these changing conditions over time.
- Recognize how climatic factors control the distribution and abundance of organisms (including crops and pathogens) and how changing global conditions result in redistribution and loss of important elements of the biosphere.

GRADES: Course grades are calculated by the summed total of the five items listed below. The relative percentage of the total grade represented by each is given. Overall course grade scale is:
“+” and “-” grades are given to the top and bottom two-point range, respectively, within each grade. Each quiz is graded on a 5 point scale (one per correct answer). Other projects are assigned grades based on the following grade scale:

- +, 100 pts; \( +, 90 \text{ pts}; \sqrt[3]{+}, 80 \text{ pts}; \sqrt[3]{-}, 70 \text{ pts}; - , 60 \text{ pts}; 0, 0 \text{ pts}.

1) **Quizzes** (20%): Six quizzes are given throughout the semester. The lowest quiz grade is automatically dropped: this includes quizzes missed for unexcused absences. Quizzes missed due to unexcused absences cannot be made up.

2) **Group Projects** (30%): Four small group projects are assigned during the semester. These are generally completed during a single classtime, in small randomly assigned groups of 4-5 students. Only a single project is handed in for each group; all students in a group receive the same grade. Group projects missed due to unexcused absences cannot be made up.

3) **Field Trip Report** (10%): Each student is responsible for attending and reporting on one of the field trips available during this semester. This report is in the form of an online essay and annotated bibliography. Grades for the assignment are based 25% on the Style Rubric (http://www.geol.umd.edu/pages/sgc/resources/rubric.html#Style) and 75% on the Content Rubric (http://www.geol.umd.edu/pages/sgc/resources/rubric.html#Content) specific to that assignment. Field trip reports are due online the second Tuesday after the field trip itself.

The field trip opportunities this semester are:

a) **Feb. 12 (Sunday)**, National Museum of Natural History, Washington, DC
b) **March 10 (Saturday)**, American Museum of Natural History, New York, NY
c) **April 21 (Saturday)**, University of Maryland Center for Environmental Research Horn Point Laboratory & Blackwater National Wildlife Refuge, Cambridge, MD

4) **Academic Showcase Report** (10%): Later this semester your sophomore colleagues will be presenting the results of their individual research, service-learning, or internship work during the Scholars Academic Showcase (May 4); others will also be presenting at the campus-wide Undergraduate Research Day (April 25). You are required to attend the Showcase &/or the Research Day, and interview at least **three (3)** of the presenters, at least **two (2)** of whom must be SGC students. Your report on these short interviews will be part of the grade for this semester, but will also give you an idea of some of the experiential learning opportunities afforded by Scholars. (NOTE WELL: Next Spring **YOU** will be presenting at the Academic Showcase or Undergraduate Research Day, so observe carefully!! Don't just talk to three sophomores and leave as soon as you can; instead, use this time to survey a large number of these projects so that you get an idea of the possibilities.) An html template for the Academic Showcase/Undergraduate Research Day Report is downloadable from the SGC website at http://www.geol.umd.edu/pages/sgc/resources/showcasereport.html.

5) **Temperature Proxy Takehome** (15%): Due on February 28, each student will complete an assignment using MS Excel to plot and interpret changes in temperature over time from various instruments and/or temperature proxies. Each person’s contribution will be used in a small group project that day. Details about the assignment provided later this semester.

6) **Climate Myth Takehome** (15%): Due on April 24, each student will complete an online assignment examining false statements about climate change, what they claim to report, and what the actual science says. Each person’s contribution will be used in a small group project that day. Details about the assignment provided later this semester.

**EXTRA CREDIT**: SCG offers several different means of earning extra credit this semester. You earn 5 points maximum extra credit per item, up to a total of two items (i.e., 10 points total). In general, the extra credit is gained by writing a reaction paper mounted as a separate page on your website. Topics could include:

- A second field trip report (rather than a reaction paper, use the formal assignment for that field trip) beyond the one required.
- A reaction paper to a non-classroom academic presentation on campus, such as a departmental seminar, related to the program topics
- A reaction paper to an academic presentation off campus related to the program topics
- A reaction paper to some other academic event: check with the SGC faculty to make sure it qualifies.
Reports for field trips should follow the format assigned for that trip, including the specific questions required. Reaction papers are reports that would address both a summary of the material encountered as well as your thoughts and comments on this material and how it relates to related matter you may have encountered (in colloquium, other classes, etc.) Reaction papers require you to show insight into the matters concerned, not a simple retelling of what was there nor your “feelings” about it. See the Reaction Paper template at http://www.geol.umd.edu/sgc/documents/reactionpaper.html.

Full extra credit will only be earned if all format issues are properly completed (sufficient length, proper html coding, no spelling or factual errors, etc.). Problems with these issues will result in a decrease in the extra credit grade received, as per field trip and other web-based reports. All extra credit assignments must be online by the end of classes (i.e., before finals).

CSPS119G: Science & Global Change Colloquia

Colloquium Policies

SGC Website: http://www.geol.umd.edu/sgc/
Online Policies: http://www.geol.umd.edu/sgc/syllabi/SGC1201policies.html

NOTE: It is your responsibility as a student to completely read through and understand this syllabus. If you have questions about it, please contact Dr. Holtz or Dr. Merck. You will be held responsible for following all requirements of this syllabus.

CLASSROOM POLICIES: You should bring the following to every single colloquium meeting:

- A writing implement
- A notebook (containing this syllabus)
- The text for that part of the course
- A willingness to participate constructively, both in small groups and in the class as a whole
- A readiness and ability to discuss the readings for that week

This semester we will have a number of small-group in-class projects. We expect everyone to help move tables and chairs when necessary for a particular project, and to help restore the tables and chairs to the “neutral” position when we are done. Many hands make light work!

During classtime:

- **PLEASE** be courteous to your fellow students and your faculty, and do not engage in side conversations. Even what you might think are hushed whispers in the back row can be heard all the way up front, and are disruptive to the attention of your classmates who are interested in getting a good grade in the class.
- All electronic modes of communication (mobile phones, pagers, etc.) must be turned “off” or be in silent mode
- Laptops may be used **ONLY** for taking notes and/or following along with webnotes for the class. If you are found to be using your laptop for other purposes you will be asked to shut it down. If you fail to do this, you will be considered “absent” for that day.
- No personal electronic listening devices (e.g., CD players, MP3 players, personal radios, etc.) will be allowed
- No reading of material not germane to the class activity will be allowed

Finally, please do not leave any debris behind: pick up all food/beverage containers, papers, newspapers, etc. near your seat and on your desk when you leave and dispose of them properly

ATTENDANCE: Given the nature of the course and program, participation in colloquium meetings is **MANDATORY**. It is up to you to make certain that your presence has been recorded for every class.

- **Recording Your Presence**: On days with quizzes and/or group projects, your presence will be taken from these items. On other days, there will be a sign-up sheet. It is **your** responsibility to make certain that you have signed the quiz, project report, or sign up sheet.
  - Students observed leaving the colloquium before 4:50 or before it is formally dismissed will be counted absent.
We expect students to adhere to proper academic decorum during colloquia. This means focusing your attention on presentations, refraining from conversations or activities that are not relevant (e.g., reading newspapers, doing homework for other classes, etc.), and showing proper respect for student, faculty, and guest presenters. We reserve the right to count you absent from colloquium if you fail to uphold this standard!

**Excused Absences:** If you have a legitimate reason for being absent, such as a family emergency, unavoidable academic conflict, or other excuse according the University’s guidelines, we will usually excuse your absence. However you must notify us in a timely fashion. Requests for the excusing of an absence will not be considered after two workdays from the absence: please contact us by email! Please use the Excused Absence Report form from [http://www.geol.umd.edu/pages/sgc/docs/absence.pdf](http://www.geol.umd.edu/pages/sgc/docs/absence.pdf).

- If the absence was for a colloquium for which there was no graded activity (i.e., no quiz, no group project, etc.) AND for which this was your first absence from colloquium this semester, you may simply complete the Excused Absence form and turn it in. If instead there were a graded activity AND/OR this was not your first absence from colloquium this semester, you will need to provide some form of documentation from an independent source supporting your absence. These include, but are not limited to:
  - A doctor’s note, official notice of court activity, etc.: please attach a copy to your Excused Absence form
  - Barring the above, a signed statement by an independent party (for example, your RA if you were ill and the RA is willing to verify that they observed this: feel free to use the back of the Excused Absence form for this)

**NOTE WELL:** Failure to provide the Excused Absence Form will result in the absence being unexcused, and you will face the appropriate penalties.

**NOTE:** the next colloquium meeting is too late for requests for excuses.

**Grades and Excused Absences:** Even if you miss a class from an excused absence, you are still held responsible for material during that class, included graded assignments such as quizzes and small group projects. See the faculty about arrangements for a make up. If the small group project is such that it cannot be done alone, it will not be factored into your grade if you have an excused absence that you informed the faculty about within two workdays from the absence.

**Religious Observances:** The University System of Maryland policy provides that students should not be penalized because of observances of their religious beliefs, students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the responsibility of the student to inform the instructor of any intended absences for religious observances in advance. Notice should be provided as soon as possible but no later than the end of the schedule adjustment period (February 7).

**Unexcused Absences:** All other absences are considered unexcused absence. You may have one unexcused absence that does not directly affect your grade (except for missed quizzes or small group projects: see below). Each subsequent unexcused absence lowers your final course grade by 10 points.

- If you miss a quiz or small group project because of an unexcused absence, you will not be allowed to make it up.

In cases of inclement weather or other unexpected emergencies, the University may close. Please consult the University main webpage (http://www.umd.edu) or call 301-405-7669 (SNOW) to confirm such cancellations. Drs. Holtz & Merck will contact students via ELMS in order to inform them concerning delays of due dates for projects to be handed in or for exams: typically these will be shifted until the next available class date.

**COMMUNICATION:** Because many of our communications will be by e-mail, all students are expected to maintain e-mail accounts and arrange for access to the Internet. Although not a course requirement per se, students should get into the habit of checking their e-mail daily. Failure to do so may cause you to miss crucial course information. See [http://www.oit.umd.edu/wheretogo/seeTable.cfm](http://www.oit.umd.edu/wheretogo/seeTable.cfm) for a list of available computer labs on campus.

At your earliest convenience, log on to [http://www.testudo.umd.edu/apps/saddr/](http://www.testudo.umd.edu/apps/saddr/) and update your electronic and mailing addresses. This will help ensure that important information from College Park Scholars faculty and staff reach you in a timely and accurate manner.
ELMS BLACKBOARD SITE: http://elms.umd.edu/  Course ID: 201201_CPSP119G_tholtz: CPSP119G Sec - 0101 Spring 2012 for the freshmen colloquium, 201201_CPSP249G_CPSP259G_CPSP239G_tholtz for the sophomore practicum. The primary function for the ELMS Blackboard site will be to record your grades, although we will also use it as a secondary site for documents, handouts, etc. We will use the Comments function for graded items to convey information about projects this semester (such as Field Trip webreports): please look at these for help in understanding your grade and correcting errors.

ACADEMIC INTEGRITY: The University of Maryland has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://shc.umd.edu/SHC/Default.aspx.

The University of Maryland is one of a small number of universities with a student-administered Honors Code and an Honors Pledge, available on the web at http://osc.umd.edu/OSC/AcademicHonorPledge.aspx. The code prohibits students from cheating on exams, plagiarizing papers, submitting the same paper for credit in two courses without authorization, buying papers, submitting fraudulent documents, and forging signatures. The University Senate encourages instructors to ask students to write the following signed statement on each examination or assignment: “I pledge on my honor that I have not given or received any unauthorized assistance on this examination (or assignment).”

ACADEMIC ACCOMMODATIONS: If you have a documented disability, you should contact Disability Support Services 0126 Shoemaker Hall. Each semester students with documented disabilities should apply to DSS for accommodation request forms which you can provide to your professors as proof of your eligibility for accommodations. The rules for eligibility and the types of accommodations a student may request can be reviewed on the DSS web site at http://www.counseling.umd.edu/DSS/receiving_serv.html.

COURSE EVALUATIONS: CourseEvalUM will be open for students to complete their evaluations for Spring 2012 courses between Tuesday, April 24, and Friday, May 11. Students can go directly to the website (www.courseevalum.umd.edu) to complete their evaluations, beginning April 24. You will be alerted about these dates and provided more information closer to that time, and students will be alerted via their official University e-mail account.

Students who complete evaluations for all of their courses in the previous semester (excluding summer), can access the posted results via Testudo’s CourseEvalUM Reporting link for any course on campus that has at least a 70% response rate. You can find more information, including periodic updates, at the IRPA course evaluation website: https://www.irpa.umd.edu/Assessment/CourseEval/fac_faq.shtml

The expectation is that all students will complete these. This is YOUR chance to anonymously evaluate this class: please use this opportunity!

SCHEDULE OF LECTURES AND EVENTS

1/31/12  Semester Introduction: Welcome to the Anthropocene

2/7/12  The Dynamic Earth: Introduction to Earth Systems
Reading: Henson Part 1

2/12/12 (Sun.)  FIELD TRIP 1: Smithsonian Institution National Museum of Natural History, Washington, D.C.

2/14/12  Quiz 1
Understanding the Carbon Cycle GROUP PROJECT
2/21/12  A Song of Ice and Fire: Climate Change over Deep Time  
Reading: Henson Part 2

2/28/12  **Quiz 2**  
Temperature Proxies **GROUP PROJECT**  
Temperature Proxy Take-Home Assignment Due

3/6/12  Climate and How It Works I: Physical Components  
Reading: Henson Part 3

3/10/12  **FIELD TRIP 2: American Museum of Natural History, New York, NY**

3/13/12  **Quiz 3**  
Climate and How It Works II: Radiative Forcings & Climate Change

3/20/12  **SPRING BREAK!**

3/27/12  Strange New Worlds: Climate Systems on Other Worlds  
Reading: Henson Part 4

4/3/12  **Quiz 4**  
Climate Change in Human History **GROUP PROJECT**

4/10/12  The Value of the Biosphere  
Reading: Henson Part 5

4/17/12  Challenges of a Warmer World: the Biosphere, Food Security & Public Health

4/21/12 (Sat.)  **FIELD TRIP 3: UMCES Horn Point Laboratory and Blackwater National Wildlife Refuge, Cambridge, MD**

4/24/12  **Quiz 5**  
Climate Myths **GROUP PROJECT**  
Online Course Evaluations begin  
**Climate Myth Take-Home Assignment Due**

4/25/12 (Wed.)  Undergraduate Research Day, McKeldin Library

5/1/12  With Speed and Violence: the Perils of Abrupt Climate Change

5/4/12 (Fri.)  Scholars Academic Showcase, Orem Alumni Hall, Riggs Alumni Center

5/5/12 (Sat.)  “Step Up To Bat For Kids” Scholars Charity Softball Tournament

5/8/12  **Quiz 6**  
The End of the World as We Know It  
**Academic Showcase Report Due**

5/11/12 (Wed.)  Online Course Evaluations ends: please complete your evaluations before this date