

**Geography/Envst 3330: Urban Environmental Geography** (3 credits)  
Fulfills Physical/Life Science Exploration Requirement (SF)  
Spring 2019

Instructor: Ingrid Weinbauer  
Meeting Time: MW 1:25-2:45 GC 3660  
Office: GC 4840  
Office Hours: TTH 11-noon, W 10:30-11:30

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*Please turn off your cell phones. Absolutely no texting and multitasking!*

**Course Description/Objectives:**

This course explores how physical geography/environments impact urban development and how urban development in turn influences physical environments. The course applies earth systems science to urban geography issues. Students explore the interrelation of both, dynamic physical environments and urban settings. Cities across the globe and Salt Lake City are used to illustrate the interrelatedness of the geosphere, hydrosphere, atmosphere, biosphere, and anthrosphere.

After this course you will:

1. Have a good understanding of the principles and theory of earth systems science.
2. Understand the different impacts of urbanization on earth systems and vice versa.
3. Have a global perspective and awareness of urban environmental issues.
4. Have a good comparative perspective of the many types and causes of urban environmental issues in cities across the globe.

**Teaching/Learning Methods:**

A) Principles and theory of earth systems science are presented, generally but not always, on Mondays as lectures. The concepts are a subset of those presented in Robert W. Christopherson's textbook. The goal of most lectures is a) to explain the science that b) explains major earth system processes that c) affect cities. Concepts relating to energy and gravity are recurring themes because the uneven distribution of heat and mass explains much of the physical variation among urban settings, such as tectonic regime (geosphere), circulation of ocean currents (hydrosphere), contrasting weather (atmosphere), distribution of biomes (biosphere), and global impacts of the metabolism of cities (anthrosphere).

B) Wednesdays are usually discussion oriented and student-driven classes. Individuals or small student groups will lead the discussion loosely based on Mondays lecture topic(s) and one peer-reviewed current article chosen by the group(s) and/or the instructor. **The article will be posted on Monday on canvas for you to read until Wednesday!**

In addition, students will also present cities and pertinent environmental issues facing global cities.

**Required Texts:**

1. Christopherson, Robert W. 2016. *Elemental Geosystems*. 8<sup>th</sup> Edition. Prentice Hall. New Jersey. This is the textbook for the Monday lecture part of the course.
2. Weekly Current Articles that will be posted on Canvas.

**Grading:**

Midterm: 20%  
Final Exam: 20%  
2 Assignments: 30%  
-----Urban Environmental Portfolio: 20%  
----- SLC Article Review: 10%  
Discussion Leader: 5%  
City Presentation 10%  
Quizzes: 15%

**Grading Scale: +/-**

A 100-90%  
B 90-80%  
C 80-70%  
D 70-60%  
E <60%

**Attendance Policy:**

I strongly encourage attendance, since the majority of the exams, assignments, and activities will draw upon class material, lectures, and class discussions. When you miss class, it is your responsibility to obtain class notes and other material.

**Active Class Participation:** Including, but not limited to: Coming to class on time, contributing to class discussions, working independently in small groups, and completing reading assignments.

**Note:** No late work is accepted! There are no-make-up exams!

**Incomplete:** University Policy states that an “Incomplete grade may only be given when there has been a circumstance “beyond the student’s control,” (i.e., a death in the family, a serious accident, or a serious illness) and the student has completed 80% of the course requirements”.

**Accommodations Policy** The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations for this class, reasonable prior notice needs to be given to the Center for Disability Services (CDS), 162 Olpin Union Building, 581-5020 (V/TDD). All written information in this course can be made available in alternative format with prior notification to the CDS. The CDS will work with you and the instructor to arrange for accommodations.

### **Academic Misconduct**

- Academic misconduct will not be tolerated. Penalties may include failure of an assignment, the entire course, and/or the filing of formal charges with appropriate university authorities. Academic misconduct includes, but is not limited to, cheating, misrepresenting one's work, and plagiarism.
- Cheating involves the unauthorized possession or use of information in an academic exercise, including unauthorized communication with another person during an exercise such as an examination.
- Misrepresenting one's work includes, but is not limited to, representing material prepared by another as one's own work or submitting the same work in more than one course without prior permission of all instructors.
- Plagiarism means the intentional unacknowledged use or incorporation of any other person's work in one's own work offered for academic consideration or public presentation.

### **Assignments**

#### **Discussion Leaders:**

Individuals or small student groups are asked to participate as discussion leaders once during the semester. Your responsibility is to come up with questions (from the chosen article and the lecture topic(s) to help stimulate class discussion. Class discussion is not about you summarizing the reading for the rest of your classmates. Rather, I am looking for you to take over class and get involved in a discussion on the reading and lecture topic(s). It is up to you to be prepared and organized and to coordinate with fellow leaders. 5% of your grade.

#### **Salt Lake City Article Review:**

You will be responsible to find a case study about a particular environmental/earth systems issue that pertains to the Wasatch Front. For this assignment, I need for you to find a report, a case study, or a peer-reviewed journal article of a chosen topic. There are many choices of topics here that range from the fault and its impact on SLC to issues of the urban heat island. Please verify the topic with me before you get too deep into the review. After you find your material, I ask you to write up a 4-page thorough analysis of your chosen topic. More details on this assignment will be forthcoming as the semester progresses. 10% of your grade.

#### **City Presentation:**

You will be asked (possibly with a peer) to prepare a 10-minute presentation of an environmental/earth systems issue in a world city. You need to prepare a presentation that includes a short overview of the city (e.g., the urban context), as well as cases studies and current data. You will need to provide the class with a detailed handout of your presentation. More details on this assignment will be forthcoming. 10% of your grade.

#### **Urban Environmental Portfolio:**

This is your term project if you will. It is intended to put the majority of the material that you learned together in a portfolio format. This is not due until the last week of the semester, so I will hand out detailed instructions as the semester progresses. 20% of your grade

## **Class Schedule:**

### Week One:

1/7: Introduction

1/9: Essentials of Geography, Urban Environmental Geography (*Chapter 1*)

### Week Two:

1/14: Solar Energy, Seasons, and the Atmosphere (*Chapter 2*)

1/16: Sign Up for Presentations and Discussions  
Stratospheric Ozone Loss, Air Pollution, Acid Rain (*Chapter 2*)

### Week Three:

1/21: **MLK Day**

**1/23: Air Pollution Discussion: Wood Burning/Air Pollution in SLC (Kelly/Pope)**

**City Presentation: Air pollution in Beijing OR Mexico City**

### Week Four

1/28: Atmospheric Energy and Global Temperatures (*Chapter 3*)

**1/30: Urban Heat Island Discussion: Urban Heat Islands and Green Roofs in NYC**

**City Presentation: Heat Wave in Moscow**

### Week Five:

2/4: Atmospheric and Oceanic Circulations, Gyres (*Chapter 4*)

**2/6: Wind Energy Discussion: Micro Turbines in Urban Environments**

**City Presentation: Monsoon in Dhaka**

### Week Six:

2/11: Atmospheric Water and Weather (*Chapter 5*)

**2/13: Lake Effect-Snow Discussion: Lake Effect of the GSL**

**City Presentation: Tornadoes in X**

**SLC Article Due**

### Week Seven:

2/18: **President's Day**

2/20: Review for Midterm

### Week Eight:

2/25: **MIDTERM**

2/27: Film: Hurricane Katrina OR Guest Lecture (Steenburgh/Burian/Nicoll)

### Week Nine:

3/4: Film: H20mx: Water in Mexico City

**3/6: Urban Agriculture OR Vertical/Hydroponic Farming Discussion: Havana/Mexico**

**City/Jakarta/Detroit**

**City Presentation: Water Shortage and Drought in X**

*Spring Break 3/11 and 3/13*

Week Ten:

3/18: Climates and Global Climate Change (*Chapters 7 and 8*)

**3/20: Climate Change Discussion: Impacts on Urban Environments**

**City Presentations: Sea-level rise in Male**

Week Eleven:

3/25: Dynamic Planet, Plate Tectonics, Hotspots (*Chapter 9*)

3/27: Earthquakes (*Chapter 10*)

Week Twelve:

4/1: *Visit to the University of Utah Seismic Center*

**4/3: Geothermal Energy Discussion OR Open Topic Discussion**

**City Presentation: Volcanic Eruption in X**

Week Thirteen:

4/8: Weathering, Mass Movements, Sinkholes (*Chapter 11*)

**4/10: Land/Mudslides Discussion**

**City Presentation: Sinkhole in Guatemala City**

Week Fourteen:

4/15: Film: Mount Pinatubo Eruption

**4/17: Green/Sustainable Cities Discussion OR Stream Daylighting**

**City Presentation: Wildfire OR Flood in X**

Week Fifteen:

4/22: Semester Recap and Final Exam Review

**Urban Portfolio Assignment Due**

**The Final Exam will take place during Finals Week  
Tuesday, April 30, 2019 from 1-3 PM in GC 3660!**

*Syllabus is subject to revision!*

*This syllabus is not a binding legal contract. It may be modified by the instructor as long as the student is given reasonable notice of the modification.*