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.

Learning Method:
Principles and theory of earth systems science are presented. 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).

Required Texts:
2. Articles on Canvas.

Grading:
Midterm: 25%
Final Exam: 25%
Six Short Assignments: 50%

Grading Scale: +/-
A 100-90%
B 90-80%
C 80-70%
D 70-60%
E <60%
University Policies:

The Americans with Disabilities Act. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

University Safety Statement. The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

Incompletes. The mark "I" (incomplete) shall be given and reported for work incomplete because of circumstances beyond the student's control. The grade of "I" should be used only for a student who is passing the course and who needs to complete 20% or less of the course. An "I" should not be used in a way that will permit a student to retake the course without paying tuition. If the student attends the course during a subsequent semester as part of the effort required to complete the course, he/she must be registered (either as a regular student or for audit) in the semester in which he/she attends.

If a student has not finished incomplete work within one calendar year after the "I" was given, the "I" will be changed to an "E" by the Registrar's office. If the student graduates within one calendar year after receiving the "I," but before completing the work, the "I" will remain in the record, but will not contribute to credit toward graduation or the grade point average. An instructor may override the automatic change from an “I” to an “E” by submitting a grade change form.

“Academic misconduct” includes, but is not limited to, cheating, misrepresenting one's work, inappropriately collaborating, plagiarism, and fabrication or falsification of information, as defined further below. It also includes facilitating academic misconduct by intentionally helping or attempting to help another to commit an act of academic misconduct.

a. “Cheating” involves the unauthorized possession or use of information, materials, notes, study aids, or other devices in any academic exercise, or the unauthorized communication with another person during such an exercise. Common examples of cheating include, but are not limited to, copying from another student's examination, submitting work for an in-class exam that has been prepared in advance, violating rules governing the administration of exams, having another person take an exam, altering one's work after the work has been returned and before resubmitting it, or violating any rules relating to academic conduct of a course or program.

b. 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 both faculty members.

c. “Plagiarism” means the intentional unacknowledged use or incorporation of any other person's work in, or as a basis for, one's own work offered for academic consideration or credit or for public presentation. Plagiarism includes, but is not limited to, representing as one's own, without attribution, any other individual's words, phrasing, ideas, sequence of ideas, information or any other mode or content of expression.

“Academic sanction” means a sanction imposed on a student for engaging in academic or professional misconduct. It may include, but is not limited to, requiring a student to retake an exam(s) or rewrite a paper(s), a grade reduction, a failing grade, probation, suspension or dismissal from a program or the University, or revocation of a student's degree or certificate. It may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing.
**Class Schedule:**

**Week One: January 19-24**
- Introduction
- Essentials of Geography, Urban Environmental Geography (*Chapter 1*)

**Week Two: January 25-31: Assignment**
- Solar Energy, Seasons, and the Atmosphere (*Chapter 2*)

**Week Three: February 1-7**
- Stratospheric Ozone Loss, Acid Rain, Air Pollution (*Chapter 2*)
- Wood Burning/Air Pollution in SLC
- City Focus: Air pollution in Beijing OR Mexico City

**Week Four: February 8-14: Assignment**
- Atmospheric Energy and Global Temperatures (*Chapter 3*)

**Week Five: February 16-21**
- Atmospheric and Oceanic Circulations (*Chapter 4*)
- Urban Heat Islands and Green Roofs in NYC
- City Focus: Heat Waves in Moscow

**Week Six: February 22-28: Assignment**
- Atmospheric Water and Weather (*Chapter 5*)
- Micro Turbines in Urban Environments
- City Focus: Monsoon in Dhaka

**Week Seven: March 1-7**
- Film: Hurricane Katrina
- Lake Effect Snow of the GSL
- City Focus: Tornadoes in TBD

**Week Eight: March 8-14**
- **Midterm**

**Week Nine: March 15-21:**
- Film: H20mx: Water in Mexico City

**Week Ten: March 22-28: Assignment**
- Climates and Global Climate Change (*Chapters 7 and 8*)
- Urban Agriculture/Vertical/Hydroponic Farming: Havana/Mexico City/Jakarta/Detroit
- City Focus: Water Shortage and Drought in TBD
Week Eleven: March 29-April 4
   Dynamic Planet, Plate Tectonics, Hotspots (Chapter 9)
   Climate Change Impacts in Urban Environments
   City Focus: Sea-level rise in Male

Week Twelve: April 5-11: Assignment
   Earthquakes (Chapter 10)

Week Thirteen: April 12-18
   Weathering, Mass Movements, Sinkholes (Chapter 11)
   Geothermal Energy
   City Focus: Volcanic Eruption in TBD

Week Fourteen: April 19-25: Assignment
   Film: Mount Pinatubo Eruption (Follow up to the City Focus on Volcanism)
   Land/Mudslides
   City Focus: Sinkholes in Guatemala City

Week Fifteen: April 26-27
   Semester Recap
   Final Exam Review


Note: This syllabus is not a binding legal contract. Syllabus is subject to revision! More specifically, this syllabus is meant to serve as an outline and guide for the course. Please note that I may modify it with reasonable notice to you. I may also modify the Class/Course Schedule to accommodate the needs of the class. Any changes will be posted on Canvas under Announcements.

Note:
   1. The short assignments will be posted the following weeks: 2, 4, 6, 10, 12, 14. You will have about one week to complete them.
   2. The midterm will take place during week 8. You will take it in Canvas.
   3. The final exam will take place during final’s week.

I am looking forward to a great semester!