**PLG 497/575S**

Sustainable Urban Development & Design

**Fall 2019, Mondays 10:30am – 1:00pm**

Gould-Simpson, Rm 701

**Instructor**

Sandra Bernal, Ph.D.

A304 CAPLA Building West

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Office Hour Monday 2:00 to 4:00 or by appointment

Graduate Teacher Assistant

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Office Hour: TBD

 **Syllabus** (Update 8-25-2019)

**Course Overview**

We’ve reached an all-time high of 7.4 billion people inhabiting the earth. Of these billions, over half of them live in urban areas and more and more are moving to cities every year. While we can’t predict the future, we can clearly see that that there are some vicious problems that our cities face that we do not want to persist into the future. Slums, polluted rivers, toxic air, and vacant urban wastelands are some of the ample evidence that current development trends will not work in the future. For communities and societies to grow in a way that can support safe, healthy, and secure future generations is referred to as sustainable development. The three principal goals of sustainable development are to promote healthy communities, support a robust economy, and protect and support the natural environment. This course explores how to shape future urban development in order to move towards accomplishing these goals.

We will begin with an overview of the key drivers of economic, social, and environmental problems in urban areas. In short, current population growth and consumption patterns will surpass the global capacity to support our growth. We are currently pushing up against many planetary boundaries if they haven’t already been overshot already. The evidence is out there, and this course seeks to provide students current trends related to energy use, water, climate, soils, agriculture, and a suite of other natural resources. Throughout the course we will explore the best examples of development to inform future practices and decisions.

Above all, this course is about communication. You will make infographics, write scientific briefs, lead small group discussions, and participate in a poster presentation. Of all the problems we can’t solve, poor communication is not one of them! All assignments and activities are designed to develop and practice verbal, visual, and written communication.

**Learning Objectives**

There are two primary learning objectives:

1) Understand the core concepts that underpin sustainable development, i.e. why resources are depleting or degrading? Does the way we design and build cities influence resource consumption? What are the goals of sustainable development and new urbanism?

 2) To improve your communication of the issues to motivate action and change.

**Structure and Organization**

This course will utilize a combination of lectures, quizzes, discussions, work sessions, and outside readings in order to convey the broad spectrum of materials being covered. Student contributions and involvement are paramount to the success of this course. As the course relies on student initiative and interest, students are encouraged to share their own experiences, understanding of the material and constructive commentary with the class.

**Required Materials**

1. “Limits to Growth: The 30-Year Update.” Donella Meadows, Jorgen Randers, Dennis Meadows. (2004)
2. “Collapse: How Societies Choose to Fail or Succeed.” Jared Diamond. (2005)
3. “Thinking in Systems: A Primer” Donella Meadows (2001)
4. Printing costs for one 36x46 color poster (about $40)

**Graded Work**

* **Quizzes** (10). These are weekly activities designed to reinforce topics as well as develop and practice verbal, visual, and written communication skills. Ten quizzes will be assigned, but you only have to do 8 of them, and I replace your lowest score with your overall average.
* **Midterm** (2). These exams will test your comprehension related to the core issues of in course.
* **Semester project** (1). The semester project consists of a paper and a poster. The paper uses data, visualizations, and demonstrates a convincing argument for action that includes accurate descriptions of the problem, and presents viable solutions and ways forward. The paper will details the economic, social, and environmental considerations related to your topic. The poster summarizes and visualizes your paper. We will have a class period where students will present their posters to their peers and invited faculty.

**Grading Weights:**

**Quizzes**: 40%

**Midterms:** 20%

**Semester Project**: 20%

**Participation**\*: 20%

\*-Your participation grade is based on attendance and the quality of your contributions to class. Each student is allowed two absences in the semester before absences affect your grade. Three total absences is a C-, four is a D-, and five is a fail.

**University Policies**

**Absence and Class Participation Policy**

The UA’s policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/2015-16/policies/classatten.htm>

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See:
<http://uhap.web.arizona.edu/policy/appointed-personnel/7.04.02>

**Academic Environment**

According to the ABOR 5-308, Student Code of Conduct, “the aim of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change and respect for the rights of all individuals. Self-discipline and a respect for the rights of others in the university community are necessary for the fulfillment of such goals.”

The Arizona Board of Regents’ Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one’s self. See: http://policy.arizona.edu/threatening-behavior-students.

**Accessibility and Accommodations**

**Our goal in this classroom is that learning experiences be as accessible as possible.  If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options.  You are also welcome to contact Disability Resources (520-621-3268) to establish reasonable accommodations.  For additional information on Disability Resources and reasonable accommodations, please visit** [**http://drc.arizona.edu/**](http://drc.arizona.edu/)**.**

If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

**Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.**

**Student Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Academic fraud may result in failure of the course. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://deanofstudents.arizona.edu/codeofacademicintegrity>.

The University Libraries have some excellent tips for avoiding plagiarism available at: <http://www.library.arizona.edu/help/tutorials/plagiarism/index.html>.

*Additional Resources for Students*

* U of A Non-discrimination and Anti-harassment policy: <http://policy.arizona.edu/sites/default/files/Nondiscrimination.pdf>
* UA Academic policies and procedures: <http://catalog.arizona.edu/2012-13/policies/aaindex.html>
* Student Assistance and Advocacy information: <http://deanofstudents.arizona.edu/studentassistanceandadvocacy>

The University of Arizona’s academic mission and code of conduct is reflected in the following statement:

“The aim of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change, and respect for the rights of individuals. Self-discipline and a respect for the rights of others in the University community are necessary for the fulfillment of such goals.”

**Professionalism**

Faculty members as well as future employers expect graduates of University programs to be equipped with a set of skills and values. These include teamwork, analytic ability, communication, honesty, cooperation, flexibility, initiative, perseverance, social responsibility, curiosity, and respect for others. Use of pages and cellphones are not allowed during class periods. Disruptive behavior toward the instructor or other students will result in failing the class.

**UA Nondiscrimination and Anti-harassment Policy**

The University is committed to creating and maintaining an environment free of discrimination, <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

**Confidentiality of Student Records**

Please see <http://www.registrar.arizona.edu/ferpa/default.htm>

**Subject to Change Statement**

Information contained in this course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

**PLG 497/575s** Sustainable Urban Development & Design Fall 2019

(Update 8-25-2019)

Course schedule Fall 2019

Course Introduction and Overview Aug 26

**Labor Day (NO CLASS) Sep 2**

Sustainability Theories Sep 9

History of Sustainable Development Sep 16

Energy Sep 23

Air Quality Sep 30

Climate Change Oct 7

**Midterm 1 Oct 14**

Agriculture, Soils, and Food Oct 21

Water Oct 28

Biodiversity Nov 4

Materials and Toxicity Nov 11

**Midterm 2 Nov 18**

Measuring Sustainability Nov 25

Envisioning the Future Dec 2

Poster Presentations Dec 9

Final Paper due Dec 16