

SDG Fellows Program
Advance the Inclusion of SDGs
CP-2233 Sustainable Urban Development class
by
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Purpose:

Advance the inclusion of SDGs into the CP-2233 Sustainable Urban Development class. CP 2233 is one of the two core classes for the Sustainable Cities Minor.

Description of Creation/Modification:

- 1) Revised the syllabus to include SDGs in the course objectives and
- 2) Developed a rubric for the final paper/presentation that will focus on assessing SDGs and its interconnections. This rubric included:
 - a) Assessment of knowledge of the SDGs
 - b) Assessment of an example of a real solution implemented by a sustainable city that demonstrates SDGs interconnectivity, and
 - c) Assessment of a comparative analysis between the metrics used in the selected city and the SDGs framework.

How someone might use it:

The revised syllabus developed (below) might serve as a model to faculty interested in incorporating SDGs into one of their existing ones. The rubric might serve as a template to develop a new one that incorporates knowledge of SDGs and their interconnectivity, assessment of existing sustainable solutions, and compare sustainability frameworks.

An example of SDGs interconnectivity is the following: A policy to reduce food deserts in a city can alleviate hunger (SDG 2), create jobs and economic growth (SDG 8), while reducing greenhouse gas emissions (SDG 13).

Revised Syllabus:

SDG Education Fellow Program
Final Project
CP 2233: SUSTAINABLE URBAN DEVELOPMENT
Georgia Institute of Technology
Spring 2022

Instructor:

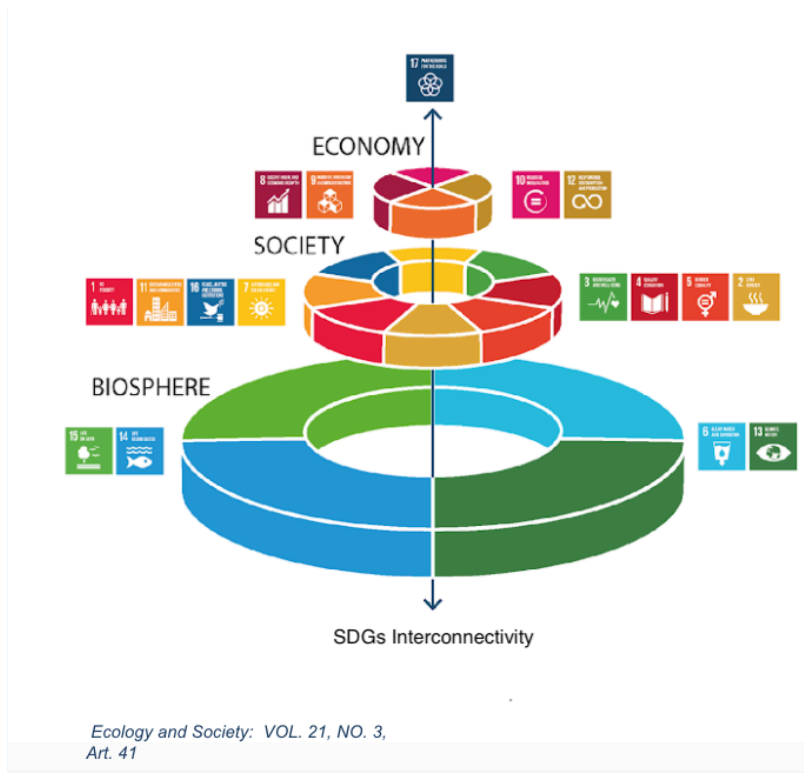
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Course Description:

The objective of this course is to introduce students to the theory and practice of the challenges of sustainable development (aka sustainability) as applied to the built environment and its interconnectivity with the natural environment. The class addresses a range of specific sustainability-related issues such as sprawl and smart growth, climate change, transportation, social equity and environmental justice, food systems, and community engagement. All of these topics will be addressed under the framework of the UN Sustainable Development Goals (SDGs), which consists of 17 urgent actions by all countries - developed and developing - in a global partnership (see Figure 1). The SDGs framework recognizes that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. CP 2233 will have a focus on the interconnectivity of SDG11 (Sustainable Cities and Communities) and SDG13 (Climate Action) to all other SDGs. For example, a policy to reduce food deserts in cities can alleviate hunger (SDG 2), create jobs and economic growth (SDG 8), while reducing greenhouse gas emissions (SDG 13).

Commented [JG1]: This section in the syllabus describe the SDGs Framework (see also Figure 1)

Commented [JG2]: This section of the syllabus explain the interconnectivity of SDGs and give an example



Commented [JG3]: This diagram of the SDGs is organized in a way that meets the three pillars of sustainability: the environment, the economy, and the people

Figure 1: UN SDGs Framework

Since 2008, the global urban population outnumbered the rural population and according to the UN, it is expected that by 2050 two-thirds of the world population will be living in cities that will generate 70 percent of the world's gross domestic products. People living in urban areas consume an enormous amount of resources including energy, water, food, and many other materials, as well as generate massive amounts of waste and pollution. All of this puts massive pressure on resources and ecosystems; furthermore, the growing demand from cities will create more challenges to the limited earth resources. As such, it is necessary a new approach in urban thinking and planning defined as

“sustainable urban development”.

As defined by the Brundtland Commission in 1987, “sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Based on this approach, this course will familiarize students to sustainable urban development from a more inclusive three-dimensional perspective that places equal weight on environmental preservation, economic prosperity, and social equity. This approach will provide students with the tools needed to create healthy, livable, and prosperous human environments for present and future generations with minimum demand on resources and minimum impact on the environment.

CP2233 is part of Georgia Tech’s Serve-Learn-Sustain (SLS) initiative, which provides students with opportunities to combine their academic and career interests with their desire to make worthwhile contributions to the world and build sustainable communities where people and nature thrive, in Georgia, the United States, and around the globe. More information about SLS can be found at www.serve-learn-sustain.gatech.edu. Visit the website to sign up for the [SLS Email List](#), view the full list of [affiliated courses and projects](#), and find links to Facebook, Instagram, and Twitter.

Course Objectives

By the end of the course and in accordance with the Serve-Learn-Sustain (SLS) Learning Outcomes, students will have accomplished the following:

1. Describe Sustainable Urban Development (SUD) at the local and regional level and describe the relationships among the natural environment, economic prosperity, and social equity using the SDGs framework.
2. Describe the challenges of urban and regional settings including their negative impact on climate change and other environmental and social issues and how sustainable cities and regions can provide significant solutions to all these challenges using the SDGs framework.

3. Use methods and tools available to evaluate sustainable practices in urban and regional setting and their relationship to the SDGs.

4. Develop basic solutions based on the concepts learned in class using the SDGs framework.

Commented [JG4]: This section includes the SDGs into the objectives of the course

Textbooks

Required textbooks/readings:

- 1) *Sustainability: A Comprehensive Foundation* (SCF) Edited by Tom Theis and Jonathan Tomkin Rice, University, (2012). Available from the course Canvas site and from an Internet search.
- 2) *Smart Sustainable Cities of the Future* (SCOF) by Simon Elias Bibri. Springer (2018). Available from the course Canvas site and from an Internet search.
- 3) *Urbanism in the Age of Climate Change* (UACC) by Peter Calthorpe. Island Press (2011). Available online in the Library.
- 4) *Urbanism Design* – Edited by Alex Krieger and William S. Saunders. University of Minnesota Press (2009). Available online in the Library.
- 5) *Assessment Report of the Urban Climate Change Research Network*. Rosenzweig, C., Solecki, W., Romero-Lankao, P., Mehrotra, S., Dhakal, S., & Ali Ibrahim, S. (Eds.). (2018). *Climate Change and Cities: Second* Cambridge: Cambridge University Press. doi:10.1017/9781316563878 Online ISBN:9781316563878

6) *Sustainable Development Goals*, UN. <https://sdgs.un.org/goals>

Commented [JG5]: This link was included in the required readings.

Recommended Readings:

- 7) *Where We Want to Live* –by Ryan Gravel. St. Martin's Press (2016). Available as a book in the Library.
- 8) *Triumph of the City* – by Edward Glaeser. Penguin Group (2011). Available as a book in the Library.
- 9) *The New Urban Crisis* – by Richard Florida. Basic Books (2017). Available online in the Library.

Other readings will be available online or through Canvas.

Grading Plan

To Grades will be earned based on two exams (midterm and final), two team papers and two presentations (SDUs and cities), SLS reflections, and class participation. Students are allowed to miss up to three (3) classes but will fail if four (4) or more classes are missed.

Coursework will be weighted as follows:

Category	Points	Weight
Midterm Exam	200	20%
Final Exam	200	20%
Team Presentation SUD Tools*	200	20%
Team Presentation Cities**	200	20%
SLS Reflection	100	10%
Class Participation	100	10%
Total	1000	100%

Midterm and Final Exams

Exams will be administered in-class and have been scheduled to cover roughly the first and second halves of the course. All exam material will be drawn from the assigned readings, lectures, and guest presentations. Each exam will consist of two sections: short answer and essay. Approximately one week prior to an exam, the instructor will distribute a list of key concepts to focus study.

Rubric Final Team Papers and Presentations

Commented [JG6]: This is the second delivery; the rubric

Purpose:

For these two assignments, Teams will research one SUD tool* and one Sustainable City**, will write one paper for the SUD Tool* and one paper for the Sustainable City**, and will present their findings to the class applying the SUD concepts learned in class using the SDGs framework. The SUD Tool* does not have to be related to the Sustainable City**

Knowledge: These assignments will help students expand their familiarity with existing SUD Tools* and Sustainable Practices in a Sustainable City** applying the concepts learned in class.

Skills: These assignments will help student learn the applicability of these SUD Tools* and how Sustainable Cities* are using the concepts studied in class.

Tasks:

To complete this assignment, teams shall follow these steps:

1. Select one SUD Tool* and one Sustainable City** listed on the table above. If none of these topics interest you, see me to discuss other options (office hours or email for an appointment).
2. Submit your selected SUD Tool* and the Sustainable City**. Send me those selections via email. I will let you know these options are available. If not, then your team will need to select new options.
3. Prepare and submit two written reports (one for the SUD Tool* and one for the Sustainable City**) with your findings. Each paper should not be more than 1,500 words (1.5 spaced, 12 font) using APA Style guidelines.
4. Prepare one power-point presentation for the SUD Tool* and one for the Sustainable City**, or other presentation software. Each presentation should no longer than 12 slides.

5. Submit your paper and presentation in Canvas and present to the class your findings.

Criteria

See rubric below

Criteria	Weight 200 max	Unacceptable	Satisfactory	Exemplary
Mechanics	20	(0 - 79%) The paper/presentation had many typos or did not follow APA guidelines	(80-93%) The paper/presentation had a few typos but followed APA guidelines.	(94 - 100%) The paper/presentation was free of typos and followed APA guidelines.
Content/ Research: a) Description of findings using SDGs (b) Demonstrates SDGs interconnectivity	70	(0 - 79%) The findings were limited and/or lacked citations. The findings were not described using the SDGs framework.	(80- 93%) The findings were fairly researched and supported with citations. The findings were in general described using the SDGs framework.	(94 - 100%) The findings were well researched and well supported with citations. The findings were described using the SDGs framework.
	70			
Clarity	40	(0 - 79%) The paper/presentation was not clear or well organized. Student read from notes.	(80-93%) The paper/presentation was in general clear and understandable. Transitions between ideas were not always clear.	(94 - 100%) The paper/presentation was clearly well thought out and well organized. Transitions between ideas were clearly noted.

Commented [JG7]: Assessment of knowledge of the SDGs

Commented [JG8]: SDGs Interconnectivity