

Department of Geography & Geoinformation Science

GGG 307-001 Sustainable Development | Fall 2017

Instructor Contact Details

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Course Details

Meeting Times : Wednesdays, 3:00 pm – 4:15 pm
Location : Exploratory Hall 2103
Office hours : M | W 1:30 pm – 2:30 pm
Credits : 3.000

Catalog description:

Sustainability lies at the intersection of the environment, society, and economics. A sustainable future requires professionals who are able to integrate sustainability into existing programs. A particular knowledge base and skill set is required to drive this kind of transformational change. This course will explore the concepts, applications, and tools for analysis and decision making in support of environmentally sustainable, socially responsible, and economically prosperous development. Case studies and problem-solving exercises will be used to stimulate learning and provide practical experience in addressing sustainable development issues.

Student Learning Objectives:

Upon course completion, a student will be able to:

- Examine critically the 17 newly minted UN Sustainable Development Goals
- Understand the historical evolution, key theories, and concepts of sustainable development.
- Articulate the major issues affecting sustainable development and how sustainable development can be achieved in practice.
- Identify and apply methods for assessing the achievement of sustainable development
- Discover the science, technology, economics, and politics underlying the concepts of sustainability.
- Understand the implications of overuse of resources, population growth and economic growth and sustainability.
- Explore the challenges the society faces in making transition to renewable resource use.
- Analyze arguments, similarities, and disagreements in the sustainability debate.
- Develop skills that will enable students to understand attitudes on individuals, society and their role regarding causes and solutions in the field of sustainable development.
- Apply critical thinking skills to evaluate the quality, credibility and limitations of an argument or a solution using appropriate evidence or resources.
- Communicate effectively in both oral and written forms, applying appropriate rhetorical standards (e.g., audience adaptation, language, argument, organization, evidence, etc.)

Required Course Materials: Recommended Textbook: Sustainability: A Comprehensive

Foundation by Tom Theis and Jonathan Tomkin, Editors.

The instructor has selected additional required readings that are placed under “Content” through the Blackboard [<https://mymasonportal.gmu.edu>].

Assignments and Grading

This course will rely upon a variety of methods to assess and evaluate students learning. Grades are broken down as follows. See schedule for due dates in the course outline.

Grading Policy

The following grading criteria will be used to determine your final grade:

Assessment description	% (of final grade)
Short Writing Assignments (3)	15
Class Participation through Group Discussion/Activity	5
Group Discussion Leaders	5
Short Quizzes (4)	5
Exam I	15
Midterm Exam	20
Final Exam	25
Final Group Presentation	10
Total	100

Assignments due dates – Written assignments will be due according to the dates shown in the syllabus. I do accept late work, but my policy is to deduct **5 points** for every day your assignment is **late**.

Grading Scale

Grade	Percentage	Grade	Percentage	Grade	Percentage	Grade	Percentage
A+	98 -100%	B+	88 – 89%	C+	78 – 79%	F	below 60%
A	93 -97%	B	83 – 87%	C	70 – 77%		
A-	90 -92%	B-	80 – 82%	D	60 – 69%		

Complete Assignments, Dates, and Extensions

- All assignments for this course will be submitted electronically through the GMU Blackboard unless otherwise stated.
- I will not accept assignments submitted through emails unless you get my permission to do so.
- You will need to adhere to assignment(s) deadline given according to the outline schedule or communication that will be given from time to time.
- All extensions must be arranged at least three days in advance and students must be prepared to document their reasons for requesting an extension.
- Extensions will not be given beyond the next assignment except under extreme circumstances.

Policy on Late Submissions and Quizzes, Assignments

- There will be a 5-point deduction for each day late of your assignment.
- Please do not wait until the last minute (**11:59pm**) for you to complete your quiz/test - computers are machines and sometimes they cannot be reliable (e.g. power outage, wireless connection problem etc.) and cannot be held accountable for your excuse not to submit your assignment on time.
- All quizzes will become unavailable on Blackboard after the due date and time.
- All short writing assignments will be available after the due date and time but will be graded accordingly (see 5-point deduction rule).

Issues & Analysis Group Discussion

Additionally, there will be reading assignments from time to time derived from assigned articles that will be posted through the Blackboard. Each student or group of students will lead a discussion of any article that might be assigned by the Instructor (part of class participation grade). Students will identify key issues and subjects which they believe should be considered by the class in a conversation about sustainable development. The Forum Discussion Leaders will be required to:

- Succinctly synthesize the material with a brief opening oral presentation (including a set of slides highlighting the most important points from the article.
- Develop two or three questions intended to stimulate class discussion.

Final Project

Student ideas and projects are important to further and enrich sustainability efforts that will be discussed in the course. You will join a group to develop an academic research semester project to examine one of the sustainable development issue discussed in class.

Note: SafeAssign (Blackboard Plagiarism Prevention Tool) will be used to check your written submissions for plagiarism.

Academic Integrity

George Mason University operates under an honor system, which is published in the University Catalog and deals specifically with cheating, attempted cheating, plagiarism, lying, and stealing. Please familiarize yourself with the honor code, especially the statement on plagiarism (<http://www.gmu.edu/org/honorcouncil/guidelines.htm>).

Email Policy

GMU faculty and staff may only correspond with students through the students' GMU assigned email accounts. Emails sent from other accounts will not necessarily be answered. Course information will be shared via email. Please notify me if you would like your email to remain private and not shared with your classmates. Gmail or Yahoo accounts etc. will not be acknowledged.

University Services

George Mason University has several academic support and other resources to facilitate your success. Some of these resources are presented below:

- i. Counseling and Psychological Services [<http://caps.gmu.edu/>]
- ii. Learning Services, University Career Services [<http://careers.gmu.edu/>]
- iii. The Writing Center [<http://writingcenter.gmu.edu/>] and other Learning Services within GMU.
- iv. University Catalog: <http://catalog.gmu.edu/> |
- v. University Policies: <http://universitypolicy.gmu.edu/>

Students with Disabilities

George Mason welcomes students with disabilities into the University's educational programs. If you are a student with a disability and you need academic accommodations, please contact the Office of Disability Services (ODS) at 703-993-2474. All academic accommodations must be arranged through the ODS. All students with questions or concerns about this class are encouraged to set up a time to meet with the professor, preferably during the first two weeks of the semester. Disability Services (ODS) website: <http://ods.gmu.edu/> / Student Union Building I (SUB), Room 2500. Telephone: (703) 993-2474.

Cell phone/social media policy:

Cell phones are to be switched off or in silent mode ONLY if urgent messages are expected from family members; no cell phones shall be answered or calls made, nor text messages sent or received or postings made or read on social media sites.

Course Outline/Schedule

You should be referring to the course schedule and blackboard for specific readings, activities, and assignments.

Date	Topic description	Readings /Assignments
08/28	Introductions and Course Overview	
	The Concept of Sustainable Development	<i>None</i>
08/30 & 09/6	Introduction to Sustainability: Humanity & the Environment <ul style="list-style-type: none"> • Depleting Natural Capital • What is Sustainability? • The concept of Sustainability, the debate over Sustainable Futures, and the Earth Summits • Our Earth and the Sustainability Crisis • The Sustainable Development (SD) timeline 	Read Chapter 1 of your textbook [Online Self-introduction due on 9/3 -Bb) Issues & Analysis Discussion In-class (Group Activity -09/6) <i>Online Quiz 1 –due 9/7</i>
09/11	Social and economic dimensions to sustainability <ul style="list-style-type: none"> • Overview • Linking economics and sustainability • Environmental Kuznets curve • Sustainable livelihoods 	Read Chapter 1 Check Blackboard for Readings Group Activity <i>Short Writing Assignment # 1 - Handout</i>
09/13	The UN Sustainable Development Topics <ul style="list-style-type: none"> • Sustainable Development Goals • The United Nations and Global Sustainability 	Issues & Analysis Discussion on Sustainable Development Knowledge Platform (Topics) https://sustainabledevelopment.un.org/topics Check Blackboard for Readings
09/18	EXAM 1	
09/20	Sustainability in the Built Environment <ul style="list-style-type: none"> • Sustainability at the Individual and Household Level <ul style="list-style-type: none"> ○ Water use, Solid waste, Energy use and Land use in the household 	Check Blackboard for Readings <i>Online Quiz 2 due 9/21</i>
09/25	Sustainable Infrastructure and Urban sustainability	Chapter 11
	<ul style="list-style-type: none"> • What are Sustainable Cities? • The Patterns of Urbanization Around the World • Resilient cities – What makes a city sustainable, green, and resilient? • Sustainability & Building 	Issues & Analysis Discussion on: MWCOG’s Region Forward goals - http://www.regionforward.org.php53-4.dfw1-2.websitetestlink.com/the-vision/goals/ Check Blackboard for additional Readings <i>Short Writing Assignment # 1due</i>
09/27	Case Study: The role of transportation in sustainable Curitiba Watch Film	<i>Group Comment on the Case Study</i>
10/02 & 10/04	<ul style="list-style-type: none"> • Environmental Sustainability <ul style="list-style-type: none"> ○ Air and Water in a sustainable environment 	Case Study on SDGs local - DC Metropolitan Area Fairfax City/Campus Sustainability Outreach
10/09	Columbus Day Holiday	

Date	Topic description	Readings /Assignments
10/10 *& 10/11	Sustainable Energy Systems	Chapter 8
	<ul style="list-style-type: none"> • Introduction to Sustainable Energy Systems • Energy as the foundation of Human Economies • Energy: Choices for Environment and Development • Economic Costs of Sustainable Energy • Energy Conservation Measures 	Case Study: TBA Articles TBA Short Writing Assignment # 2 - Handout
10/16	MID-TERM EXAM	
10/18	<i>Group Research Activity [Groups can meet - Library, JC etc. to discuss their research topic]</i>	
10/23	Measuring Sustainability	Chapter 9
	<ul style="list-style-type: none"> • Types of Indicators and Approaches for choosing Indicators • Life Cycle Assessment 	Issues & Analysis Discussion (Group work) Articles TBA- check BB Submit your Research Topic description
10/25	Tools, Systems, and Innovation for Sustainability	Short Writing Assignment # 2 due
	<ul style="list-style-type: none"> • Green House Gas Inventory • Sustainability and Business 	Case Study: Selection of Indicators for the city of Guadalajara
10/30	Industry Approach to Sustainability <ul style="list-style-type: none"> • Cleaner Production & other Approaches • Life Cycle Assessment Group Activity 	LCA Activity Handout/Guidelines Online Quiz 3 due 10/31
11/1 & 11/6	Planetary boundaries & the theory of geography and ecology	Short Writing Assignment # 3 - Handout
	<ul style="list-style-type: none"> • Global and regional changes of environment and climate • Population dynamics, consumption & sustainable development • Strategies for Sustainable Food Security 	Issues & Analysis Discussion (Group Activity) Rockstrom et al., “Planetary Boundaries: Exploring the Safe Operating Space for Humanity”
11/8	In-class Group Activity on Planetary Boundaries	Handout/Guidelines – Check Bb
11/13	The UN Millennium Ecosystem Assessment Report	United Nation, “Ecosystems and Human Well-being”
11/15	Case Study: A Community in Search of its Future <ul style="list-style-type: none"> • The Sustainable initiative for a community – What to do? 	Handout/Guidelines check the Bb Online Quiz 4 due 11/16
11/20	Sustainable Impact Assessment (SuIA)	Short Writing Assignment # 3 due
	<ul style="list-style-type: none"> • Assets & Resource Inventory • Understanding the problem • Criteria and Indicators to gauge Projects 	In-class Group Discussion Articles TBA- check BB
11/20 - 26	Thanksgiving Holiday	
11/27	Sustainable Impact Assessment (SuIA) Continued	In-class Group Activity
11/29 & 12/4	Final Group Presentation	
12/6	Final Exam Revision	
12/18	FINAL EXAM [1:30 pm – 4:15 pm]	

All course readings will be assigned on a weekly basis. Students are expected to read all assigned materials prior to class meeting. The due date for any given assignment will also appear through the Blackboard