

Department of Geography & GeoInformation Science

GGG 307-001/507-001 Sustainable Development | Spring 2017

Instructor Contact Details

Name : Maction Komwa, PhD
Office : Exploratory Hall, Room 2210
Email : mkomwa@gmu.edu
Phone : 703-993-5646

Course Details

Meeting Times : Wednesdays, 7:20 - 10:00 pm
Location : Exploratory Hall 2103
Office hours : Wednesdays, 2:00 – 3:30 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>].

Teaching and Assessment

GGS 307/507 is being offered as a combined undergraduate and undergraduate course. Our weekly meetings will comprise lectures, group or student-led discussions, guest lecturers, and class videos. Active participation is required in all sessions for students to pass this course.

Grading Policy

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

GGS 307 Students			GGS 507 Graduate Students		
Assessment	Points	% (of final grade)	Assessment	Points	% (of final grade)
Short Writing Assignments (4)	100	15	Short Writing Assignments (4)	100	15
Class Participation	45	5	Class Participation	45	5
In-class Discussion Group	50	5	In-class Discussion Group	50	5
On-line discussion (6)	45	5	On-line discussion (6)	45	5
Short Quizzes (4)	45	5	Short Quizzes (4)	45	5
Midterm Exam	100	25	Research Topic Description	40	5
Final Exam	100	40	Midterm Exam	100	20
			Individual Presentation	75	10
			Final Paper	100	30
Total	485	100	Total	600	100

All late submission will be downgraded to 5 points for each day.

Cut-off values for your final Letter Grade

GGS 307: A (93%) A- (90%) B+ (87%) B (83%) B- (80%) C+ (77%) C (70%) D (60%) F (<60%)
GGS 507: A (93%) A- (90%) B+ (87%) B (83%) B- (80%) C+ (77%) C (70%) D (60%) F (<60%)

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. Graduate Students will develop an academic research semester project to examine one of the sustainable development issue at multiple scales (e.g. local, regional, and global) or examine the challenging/interplay between 2 SDGs at the same scale (e.g. UN SDG # 7 energy for all and # 13 climate change).

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. If the student expects/needs to respond to a family emergency or situation, he/she can excuse him/herself from class to respond. This policy is for professional courtesy and respect to the lecturer and fellow students.

Tentative Schedule & Readings

The schedule presented below is subject to change at the discretion of the instructor. Every effort will be made to announce changes in advance, however, students are responsible for changes. Students should regularly check the course Blackboard account as information related to the class including schedule and assignment changes will be communicated there or through the GMU email.

Date	Topic description	Readings /Assignments
01/25	Introductions and Course Overview The Concept of Sustainable Development	<i>None</i>
02/01	Introduction to Sustainability: Humanity & the Environment <ul style="list-style-type: none"> • 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 	Check Blackboard —for additional Readings Read Chapter 1 of your textbook Student’s Introduction (due) – Discussion Forum Issues & Analysis Discussion (Group work)
02/08	The UN Sustainable Development Topics <ul style="list-style-type: none"> • Sustainable Development Goals • The United Nations and Global Sustainability • Financing for Sustainable Development • Is Sustainable Development Feasible? 	Issues & Analysis Discussion on Sustainable Development Knowledge Platform (Topics) https://sustainabledevelopment.un.org/topics Check Blackboard for Readings Practice Quiz 1
02/15	Urban sustainability and challenges <ul style="list-style-type: none"> • The Patterns of Urbanization Around the World • Resilient cities – What makes a city sustainable, green, and resilient? • The Growth of Cities • Urban Heat Island • The Urban Challenge in Developing Countries • Getting Serious about Urban Sustainability 	Short Writing Assignment # 1 Issues & Analysis Discussion on: MWCOG’s Region Forward goals - http://www.regionforward.org.php53-4.dfw1-2.websitetestlink.com/the-vision/goals/ Case Study on SDGs local - DC Metropolitan Area Fairfax City/Campus Sustainability Outreach Check Blackboard for additional Readings
02/22	Sustainable Energy Systems <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 	Chapter 8 Case Study: Green House Gases and Climate Change Practice Quiz 2
03/01	Sustainable Infrastructure <ul style="list-style-type: none"> • Introduction to Sustainable Infrastructure • What are Sustainable Cities? • Sustainability & Building • Sustainability Transportation & Energy Practice 	Short Writing Assignment # 2 Chapter 11 Additional Readings – check BB

Date	Topic description	Readings /Assignments
03/08	Midterm Exam	
03/15	Spring Break	
03/22	Problem-Solving, Metrics, and Tools for Sustainability <ul style="list-style-type: none"> • Problem Solving, Metrics, & Tools for Sustainability • Life Cycle Assessment • Sustainability and Business 	Chapter 9 Research Topic Description Issues & Analysis Discussion (Group work) Articles TBA- check BB
03/29	Tools, Systems, and Innovation for Sustainability continued <ul style="list-style-type: none"> • Green House Gas Inventory • Environmental Performance indicators 	Short Writing Assignment # 3 Issues & Analysis Discussion (Group work) Progress Report - Draft
04/05	Planetary boundaries & the theory of geography and ecology <ul style="list-style-type: none"> • Global and regional changes of environment and climate • Population dynamics, consumption & sustainable development • Strategies for Sustainable Food Security • Food for the Future 	Practice Quiz 3 Issues & Analysis Discussion (Group work) Rockstrom et al., “Planetary Boundaries: Exploring the Safe Operating Space for Humanity” “Planetary Boundaries Diagram”
4/12	The UN Millennium Ecosystem Assessment Report <ul style="list-style-type: none"> • United Nation, “Ecosystems and Human Well-being” • United Nation, “Living Beyond Our Means” 	Short Writing Assignment # 4 Issues & Analysis Discussion (Group work) “The Value of the World’s Ecosystem Services”
4/19	Final Presentation	
4/26	Common Endeavors, Security, Development, and the Environment <ul style="list-style-type: none"> • Managing the Commons • Environmental Stress as a Source of Conflict • Conflict as a Cause of Unsustainable Development • How Much of the Earth do Humans Use? 	Short Writing Assignment [Make-up] Issues & Analysis Discussion on case studies Case Study: Oceans: The Balance of Life Case Study: Antarctica: Towards Global Cooperation The Tragedy of the Commons (Article) “Living Planet Report 2010” Practice Quiz 4
05/3	<ul style="list-style-type: none"> • Designing a Sustainable Future • Course and Final Exam Review 	Recommendations for a Sustainable Economy Final Paper due (Graduate Students)
05/10	Final Exam [7:20 – 10:00pm]	

All course readings will be assigned on a weekly basis. Students are expected to read all assigned materials prior to class meeting. Possible class assignments/quizzes or other in-class activities will come from these assigned readings/lectures.

The due date for any given assignment will also appear through the Blackboard (most of the assignments will be submitted electronically unless otherwise stated by the Instructor).