

# GGG 307-001/590-002 Sustainable Development

Spring 2016

Department of Geography & GeoInformation Science

## Instructor Contact Details

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

## Course Details

Meeting Times : Tuesdays, 7:20 - 10:00 pm  
Location : Exploratory Hall 2103  
Office hours : T | R 1:30 -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

The instructor has selected required readings that are placed under “Content” through the Blackboard [<https://mymasonportal.gmu.edu>]. No textbook is required. It is your responsibility to check the blackboard from time to time. You will use your GMU ID to access the reading materials through the Blackboard.

## Teaching and Assessment

GGG 307/590 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. This activity will be assigned 5% of your total grade.

## Grading Policy

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

GGG 307 Students			GGG 590 Students		
Assessment	Points	% (of final grade)	Assessment	Points	% (of final grade)
Assignments (4)	120	30	Assignments (4)	120	20
Class Participation	20	5	Class Participation	20	5
Discussion Group Exercises	20	5	Discussion Group Exercises	20	5
Midterm Exam	100	25	Midterm Exam	100	15
Final Exam	100	35	Final Exam	100	30
			Research Topic/Proposal	20	5
			Final Paper	100	20

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

### Cut-off values for your final Letter Grade

**GGG 307 :** A (93%) A- (90%) B+ (87%) B (83%) B- (80%) C+ (77%) C (70%) D (60%)

**GGG 599 :** A (93%) A- (90%) B+ (87%) B (83%) B- (80%) C (70%)

- *Midterm Exam will cover the first 7 weeks of the course while the Final Exam will focus on the final weeks of the semester although the Instructor will have the right to include some few selected concepts discussed throughout the semester.*
- *3-4 ungraded pop quizzes will be given to keep students engaged with the course material as well as exam preparation*

### 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 sustainability and society. 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 a number of 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.

<b>Date</b>	<b>Topic description</b>	<b>Readings /Assignments</b>
01/19	Sustainability and the Human Future <ul style="list-style-type: none"> <li>• Overview of the course</li> <li>• What is Sustainability?</li> </ul>	None
01/26	The Sustainable Development (SD) timeline ----- The debate over Sustainable Futures, and the Earth Summits & Agreements	Check Blackboard —Week 2, Readings Issues & Analysis Discussion
02/02	The UN Sustainable Development Topics ----- Sustainable Development Goals ----- Financing for Sustainable Development ----- Is Sustainable Development Feasible? ----- Corruption and Sustainable Development	Issues & Analysis Discussion : Sustainable Development Knowledge Platform (Topics) <a href="https://sustainabledevelopment.un.org/topics">https://sustainabledevelopment.un.org/topics</a>  Check Blackboard —Week 3, Readings
02/09	Urban sustainability in the twenty-first century <ul style="list-style-type: none"> <li>• SDGs local - DC Metropolitan Area</li> <li>• Fairfax City/Campus Sustainability Outreach</li> <li>• The Patterns of Urbanization Around the World</li> <li>• Resilient cities – What makes a city sustainable, green and resilient?</li> <li>• What are Smart Infrastructure?</li> </ul>	Issues & Analysis Discussion on: MWCOCG’s Region Forward goals - <a href="http://www.regionforward.org.php53-4.dfw1-2.websitetestlink.com/the-vision/goals/">http://www.regionforward.org.php53-4.dfw1-2.websitetestlink.com/the-vision/goals/</a>  Check Blackboard —Week 4, Readings Assignment # 1
02/16	Sustainable System of Energy Efficiency and Renewable Energy <ul style="list-style-type: none"> <li>• Energy conservation and Energy Efficiency</li> <li>• Renewable Energy Efficiency</li> </ul>	Issues & Analysis Discussion —Week 5, Readings --
02/23	Non-renewable Energy Resources: Issues and options <ul style="list-style-type: none"> <li>• Global Energy Sources</li> <li>• What energy non-renewable energy resources are sustainable?</li> <li>• Energy pathways for sustainable development</li> </ul>	Issues & Analysis Discussion —Week 6, Readings Midterm Exam Review Assignment # 2
<b>03/01</b>	<b>Midterm Exam</b>	
<b>3/7 - 13</b>	<b>Spring Break</b>	
03/15	Tools, Systems and Innovation for Sustainability <ul style="list-style-type: none"> <li>• Life cycle analysis; sustainability indices and rating systems</li> <li>• Carbon, water and ecological foot printing</li> <li>• Environmental Management Systems</li> </ul>	Issues & Analysis Discussion —Week 9, Readings  Research Topic/Proposal

<b>Date</b>	<b>Topic description</b>	<b>Readings /Assignments</b>
03/22	Tools, Systems and Innovation for Sustainability continued	
	<ul style="list-style-type: none"> <li>• Green House Gas Inventory</li> <li>• Environmental Performance indicators</li> <li>• The Millennium Villages and agro-ecological zones</li> </ul>	Issues & Analysis Discussion —Week 10, Readings
03/29	Planetary boundaries & the theory of geography and ecology	
	<ul style="list-style-type: none"> <li>• Global and regional changes of environment and climate</li> <li>• Population dynamics, consumption &amp; sustainable development</li> <li>• Increasing Food Supplies Sustainably: An overview</li> </ul>	Issues & Analysis Discussion —Week 11, Readings  Assignment # 3
04/05	Major challenges and the future of sustainable development	
	<ul style="list-style-type: none"> <li>• Energy demand &amp; Water Resources</li> <li>• Economic Development &amp; Growth Dynamics</li> <li>• Rethinking sustainable development after Rio+20 world</li> </ul>	Issues & Analysis Discussion —Week 12, Readings
04/12	Major challenges and the future of sustainable development continued	
		Issues & Analysis Discussion —Week 13, Readings  ----- Guest Speaker  Assignment # 4
04/19	Traditional Ecological Knowledge (TEK) & Sustainability	
	<ul style="list-style-type: none"> <li>• The nomenclature of traditional ecological knowledge and its application to sustainable development</li> <li>• Indigenous rights.</li> <li>• Factual knowledge regarding past and current uses of the environment</li> </ul>	Issues & Analysis Discussion —Week 14, Readings
04/26	Course and Final Exam Review	<b>Final Paper due (Graduate Students)</b>
05/03	Reading Day	
05/10	<b>Final Exam [7:30 – 10:00pm]</b>	

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 appear through the Blackboard (most of the assignments will be submitted electronically unless otherwise stated by the Instructor).