



## Department of Geography & Geoinformation Science

GG5 507-001 [Traditional - Hybrid] Fall 2021

### Geographic Perspectives for Sustainable Development

Name	:	Maction Komwa, PhD	Meeting Times	:	T   4:30 pm – 5:45 pm
Office	:	Exploratory Hall, Room 2414	Location	:	Exploratory Hall 2310
Email	:	<a href="mailto:mkomwa@gmu.edu">mkomwa@gmu.edu</a>	Virtual Office hours	:	R   F (1:30 pm – 2:30 pm)
Phone	:	703-993-5646	Credits	:	3.00

#### Graduate Teaching Assistant

Name : Szandra Peter (PhD Student)

Email : [speter26@gmu.edu](mailto:speter26@gmu.edu)

Virtual Office hours: TBA

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**Instructor's Virtual Office hours:** My office hours for this semester will be conducted virtually either by phone or through Zoom. If you would like to meet in-person, you can make appointment by sending me an email.

#### Course Description:

Sustainability lies at the intersection of the environment, society, and economics. This course explores the concepts of sustainable development at different geographical scales (local, national, and international). We examine the applications, indicators, measurement tools of sustainable development for analysis and decision making in support of environmentally sustainable development from a geographic perspective. Case studies and problem-solving exercises will be used to stimulate learning and provide practical experience in addressing sustainable development issues.

#### Required Textbooks:

Exploring Sustainable Development: Geographical Perspectives.

Edited by Martin Purvis and Alan Grainger.

Any additional course materials will be posted through the Blackboard.

#### Learning Outcomes

Upon course completion, a student will be able to:

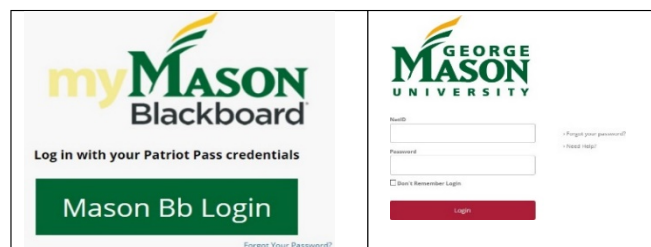
- Examine the dimensions of sustainability, including society, environmental, and economic issues.
- Examine the 17 newly minted UN Sustainable Development Goals from the Millennium Development Goals.
- Understand the historical evolution, time-line, key theories, and concepts of sustainable development.
- Provide practical skills to use GIS for sustainable development research.
- Demonstrate an understanding of course concepts and approaches of sustainability of societies on different scales: local, regional and global scale issues.
- 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 on major sustainability issues through class simulation activities, semester project, and weekly discussions.

## Instructional Methodology

- This is a traditional-hybrid course meaning – an instructional delivery method which combines face-to-face and the remainder of the coursework is either online or virtual class meeting (“synchronous or asynchronous learning”). Our scheduled meeting day and time – Mondays (12:00 – 1:15 pm).
  - We will meet only once a week and any additional material/lectures/Geospatial Exercises using GIS will be delivered through the Blackboard.
  - During our classroom meeting, students should act responsibly and adhere to the COVID-19 guidelines. Again, we will always be a good model by wearing a face mask in public indoor spaces (and outdoors when appropriate) and maintaining a 6-foot physical distance from others. For details follow university guidelines through this link: Check this link for details: <https://www2.gmu.edu/Safe-Return-Campus>.

## Technology Requirements

- As a student participating in this traditional -hybrid course, or considering taking this type of course, it is expected that you have the following:
  - Internet Connection
    - Access to high speed connection such as Cable, DSL, or Satellite is recommended
      - Internet Browser Support include:
        - Internet Explorer latest version
        - Safari version latest version
        - Google Chrome latest version
        - Firefox latest version
  - Learning Management Systems
    - Blackboard is our course management system which provides access to course materials, assignments, and class discussions. You will log in to Blackboard using your George Mason username and password through this link: <https://mymasonportal.gmu.edu>



- If you have computer problems, please contact ITS Support Center <http://itservices.gmu.edu>; Email: [support@gmu.edu](mailto:support@gmu.edu); | Phone: 703-993-8870.
- Access to software
  - You will need to have access to the most up to date:
    - Adobe Acrobat Reader: <https://get.adobe.com/reader/>;
    - Windows Media Player: <https://windows.microsoft.com/enus/windows/downloads/windows-media-player/>
    - Apple Quick Time Player: [www.apple.com/quicktime/download/](http://www.apple.com/quicktime/download/)
    - MS Word, Excel, etc.
- If you do not have the above basic requirements of skills, your success in this course may be impacted.
- Required equipment necessary for this course thus including hardware and software (e.g. MS word, etc.), speakers, microphones, or webcams, etc. are the responsibility of the student.

## Course Communication

- Students are required to regularly check their George Mason email/Blackboard for announcements or updates related to the course.
- All students are expected to use their George Mason email account for all course communication. I will not acknowledge any email that is sent through other platforms.
- You should feel free to send me email if you have any questions regarding something that you do not understand. Although I will not instantly answer your e-mail, I will reply to your e-mail within 24-48 hours and if you don't get my response please feel free to remind me or ask to confirm if I have received your email.
- Please do not wait until the day of the work is due to ask questions.

## Course Assignments and Grading Breakdown

Students are expected to submit high quality assignments during this course via the Blackboard. All assignments are to be completed according to the dates outlined in the syllabus.

Course Assignment Requirements Description [GGS 507]	%
Discussion Forum	5%
Reading Reflection	10%
GIS Application Labs (4)	10%
Exam 1	15%
Exam 2	20%
Discussion Leader	2%
Final Research Paper	25%
Draft for peer-review	2%
Peer-Review	1%
Research Paper Presentation	10%

Grades will be assigned based on the distribution scheme below

Range	Letter Grade	Grade description	Range	Letter Grade	Grade description
>=93	A	Excellent	77 - 79.9	C+	Above satisfactory
90 - 92.9	A-	Very Good	70 - 76.9	C	Satisfactory
87 - 89.9	B+	Good with merit	60 - 69.9	D	Just OK
83 - 86.9	B	Good	<60	F	Fail
80 - 82.9	B-	Above satisfactory			

## Discussion Board

Class discussion is an important part of any college experience. You will have a structured opportunity to interact with each other through guided questions related to class topics. Post your initial topic-related and thought-provoking comments that foster interaction and discussion. This will demonstrate your class participation as a whole including each week's assigned readings. *Absolutely, no make-up will be given for Discussion Forum.* Your postings will be evaluated according to the scientific content, critical thinking and concept application based on the following criteria:

- *Unacceptable (0 points); poor (1 point); good (3 points) and excellent (5 points). For a full rubric, check the Blackboard.*
- *Each Discussion topic will have instructions on how to write and submit the posting and your response.*

## Exams

- There will be 2 non-cumulative, closed book exams. No finals since you will submit a research paper.
  - *Your exams will take short-answer and essay type questions.*

## Final Research Paper

Final research project will only be completed by graduate students. For this project, students will conduct a thorough research on a topic aligned to sustainability. There will be so many topics that will be discussed in class such as Renewable Energy and the Sustainable Campus, Reduce, Reuse and Recycle, Sustainable Waste Management, Sustainable Cities, Sustainable Business, etc. Upon completing this project, you will then present your project to class at the end of the semester.

Evaluation of this paper will depend heavily on the depth of your research and ability to link class concepts to real world issues of sustainable development.

Full instructions for the research project will be posted through the blackboard. More details will be posted through the Blackboard.

- *Note: Term projects* should be 15 or so pages long (excluding title page and references).

## Reading Reflection

Throughout the semester there will be a series of assignments that will involve reading articles and conduct a brief research on issues regarding sustainable development. These homework assignments are designed to give students hands-on experience, which will involve collecting, managing, transforming and analyzing social, economic, and environmental data/information of people and the planet. Ultimately, this will help students practice their writing skills as they prepare for their final research project and final presentation. These assignments will include reading reflection, article reviews, simulation activity summary, analytical topics, etc. (2-3 pages).

## GIS Lab Assignments (4)

Many issues that we will be discussing in this course impacting sustainable development can be analyzed and mapped within a geographic context. This could provide an integrative framework in the decision-making for policy makers for sustainable development at local, national and global scale. You will have the opportunity to learn and understand the role of geospatial information in contributing to sustainable development agenda.

## Make-up and late assignment policies:

Due dates are explicitly stated. Assignments in this course (which are listed above as “Labs”) will be accepted past the ascribed due date until April 28th. No work will be accepted past that date. Late penalties are assigned in a two-tiered system.

Assignments turned in within **seven (7) days will result in a 25% deduction for the assignment.**

**Assignments later that seven (7) days will result in a 50% deduction** for the assignment.

Technical excuses ("computer system error", "didn't submit correctly on Blackboard", etc.) will not be accepted as reasons for late work. You are expected to start the work early. **Never underestimate the time you will spend on the assignments.** If you cannot complete the assignment on time, it can sometimes be better to turn in partially completed work than nothing at all.

If you are ill or physically indisposed and cannot complete an exam (midterm or final) during the allotted time, you must notify the instructor before class for you to have a chance to make up the exam. **Make-up exams will be given only for University approved excused absences.** No late quizzes are accepted. This policy may seem strict, but it is in your best interest to turn in everything on time to avoid falling irrecoverably behind. Please contact the instructor if you are struggling and you will receive aid as best as the instructor can provide.

## All students are expected to:

- Review the course material and follow the course calendar.
- Work at full pace to avoid missing class activities.
- Be active participants in discussion forum throughout the course period.
- Communicate with you instructor to ask for help or clarification of an assignment or class activities.
- Respect the privacy of other classmates and the instructor in this virtual classroom.

- Re-read your responses in the discussion forum carefully before posting them.
- Express differences of opinion in a polite and sensible way.
- Keep an open mind to the constructive criticism from classmates and use it to improve your work.
  - We are in this class to share information and learning from each other.
  - By sharing and discussing each other's ideas, you will be able to examine your own thoughts and feelings hence, making the course interesting and enjoyable!
- Use good grammar and spelling in all your assignments and discussions.
- Write your messages in formal language.

### Academic Integrity

*The following statement is adapted from the Stearns Center for Teaching and Learning.* No grade is important enough to justify academic misconduct. The integrity of the University community is affected by the individual choices made by each of us. Mason has an Honor Code, which you can read fully at the Office for Academic Integrity (<https://oai.gmu.edu/mason-honor-code/>). The Honor Code Pledge reads as follows:

To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University Community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set for this Honor Code: Student Members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

The Mason Honor Code defines cheating, plagiarism, stealing, and lying. It is expected that you understand these definitions. If you have any doubts about what constitutes cheating, plagiarism, stealing, or lying in the academic context, please see your professor. **Acts of academic dishonesty in this course may be penalized with failure of either the work in question or the entire course.**

### Students with Disabilities

Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit <http://ds.gmu.edu/> for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with me. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: [ods@gmu.edu](mailto:ods@gmu.edu) | Phone: (703) 993-2474.

### GMU Nondiscrimination Policy:

George Mason University is committed to providing equal opportunity and an educational and work environment free from any discrimination on the basis of race, color, religion, national origin, sex, disability, veteran status, sexual orientation, gender identity, age, marital status, pregnancy status, or genetic information. George Mason University shall adhere to all applicable state and federal equal opportunity/affirmative action statutes and regulations.

### Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking:

As a faculty member, I am designated as a "Responsible Employee," and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per University Policy 1412. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (703-380-1434) or Counseling and Psychological Services (CAPS) (703-993-2380). You may also seek assistance from Mason's Title IX Coordinator by calling 703-993-8730 or emailing [cde@gmu.edu](mailto:cde@gmu.edu).

### Student Support 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/>
- iv. University Catalog: <http://catalog.gmu.edu/>
- v. University Policies: <http://universitypolicy.gmu.edu>

**Course Calendar:** *Faculty reserves the right to alter the schedule as necessary, with notification to students.*

Week	Topic description	Readings	Assignments due
Week 1 8/24	Course Overview	Syllabus	<b>Self-introduction (Discussion Board) due Sunday 11:59 pm</b>
	<b>An Introduction to Sustainability</b> <ul style="list-style-type: none"> <li>What is Sustainable development?</li> </ul>	Chapter 1	
Week 2 8/31	<b>Sustainable Development Timeline</b>	Chapter 1	<b>Reading Reflection #1 due Sunday</b> <b>Discussion 1:</b> <ul style="list-style-type: none"> <li>Initial Post due Thursday</li> <li>Comments due Sunday</li> </ul>
	Pillars of Sustainability <ul style="list-style-type: none"> <li>The Environment   Society   The Economy</li> <li>The UN Sustainable Development Goals (SDGs) &amp; Indicators</li> </ul>	Articles to be posted through the Blackboard	
Week 3 9/7	<b>Geospatial Information and Sustainable Development</b>		<b>GIS Application - Tutorial Assignment #1 – due Sunday</b>
	<ul style="list-style-type: none"> <li>Why Geography matters in Sustainable Development?</li> </ul>	Chapter 2 & 3	<b>Discussion 2:</b> <ul style="list-style-type: none"> <li>Initial Post due Thursday</li> <li>Comments due Sunday</li> </ul>
	<ul style="list-style-type: none"> <li>The Role of Spatial Scale and Spatial Interaction in Sustainable Development</li> </ul>	Discussion Leaders	
Week 4 9/14	<b>Measures for Measuring Sustainable Development</b> <ul style="list-style-type: none"> <li>Tools and Systems for measuring Sustainability</li> </ul>	Articles to be posted through the Blackboard	<b>GIS Application - Poverty Mapping (Indicators) #2 – due Sunday</b>
Week 5 9/21	An Introduction to Life Cycle Assessment   Ecological Rucksack	Articles to be posted through the Blackboard	<b>Reading Reflection #2 due Sunday</b>
Week 6 9/28	<b>Sustainable Solutions: Food and Agriculture</b> <ul style="list-style-type: none"> <li>Modern Agriculture</li> <li>Sustainable Farming Systems: Different Places, Different Solutions</li> </ul>	Chapter 8	<b>Discussion 3:</b> <ul style="list-style-type: none"> <li>Initial Post due Thursday</li> <li>Comments due Sunday</li> </ul>
		Discussion Leaders	
Week 7 10/5	Green Revolution - A Global Historical Perspective Case Studies on Green Revolution in Sub-Saharan Africa	Articles to be posted through the Blackboard	<b>GIS Application - Food Production Assignment #3 – due Sunday</b>  Topic description for Final Research Project
	GIS Application on Food Security	GIS hands-on Geospatial data – check Blackboard	
Week 8 10/12	<b>Sustainable Communities, Cities and Regions</b> <ul style="list-style-type: none"> <li>The goals of Sustainable Communities</li> <li>The Complexity of Urban Sustainability</li> <li>Case Studies on Sustainable Cities <ul style="list-style-type: none"> <li>Curitiba, Amsterdam, Denmark</li> </ul> </li> </ul>	Chapters 5 and 6  No class meeting – all lectures will be delivered through Blackboard  Discussion Leaders	<b>Discussion 4:</b> <ul style="list-style-type: none"> <li>Initial Post due Thursday</li> <li>Comments due Sunday</li> </ul> <b>Mid-Term Exam</b>

Week	Topic description	Readings	Assignments due
Week 9 10/19	<b>Sustainable Business Practices</b> <ul style="list-style-type: none"> <li>• Business and the Environment</li> <li>• Sustainable Economic Development as Eco-efficiency</li> <li>• Corporate and Business Institutions</li> <li>• Corporate Social Responsibility</li> </ul>	Chapter 8  Discussion Leaders	<b>Reading Reflection #3 due Sunday</b> <b>Discussion 5:</b> <ul style="list-style-type: none"> <li>- Initial Post due Thursday</li> <li>- Comments due Sunday</li> </ul>
Week 10 10/26	The 9 Planetary Boundaries <ul style="list-style-type: none"> <li>• Climate Change</li> <li>• Freshwater use</li> <li>• Ocean acidification</li> <li>• Biodiversity loss</li> </ul>	Chapter 11 Articles to be posted through the Blackboard  Discussion Leaders	<b>GIS Application – Water Access &amp; Distribution #4</b> <b>Discussion 6:</b> <ul style="list-style-type: none"> <li>- Initial Post due Thursday</li> <li>- Comments due Sunday</li> </ul>
Week 11 11/2	Climate Change Simulation Activity	Chapter 11	<b>Reading Reflection #4 due Sunday</b>  <b>EXAM 2</b>
Week 12 11/9	Sustainable Waste Management: Solving our Garbage Problem <ul style="list-style-type: none"> <li>• Case Study of Ankara gas landfill a circular economy</li> <li>• Case Study of Curitiba Sustainable City</li> </ul>	Articles to be posted through the Blackboard	Submit your Draft Research Paper – Sunday <b>Discussion 7:</b> <ul style="list-style-type: none"> <li>- Initial Post due Thursday</li> <li>- Comments due Sunday</li> </ul>
Week 13 11/16	Our Sustainable Future <ul style="list-style-type: none"> <li>• What kind of world do we actually want?</li> <li>• The Challenge of Sustainable Development</li> <li>• Assessing Government Policies on Sustainable Development Goals</li> </ul>	Chapter 13  Discussion Leaders	Submit your peer-review assignment - Sunday
Week 14 11/23	<b>Final Project Presentations</b>		Use feedback received from your anonymous peer-reviewer and Instructor to finalize your Final Research Paper
Week 15 11/30	<b>Final Project Presentations   Final Exam Review</b>		
Week 16 12/7	<b>Reading Day [No class meeting]</b>		Submit your Final Research Paper  <b>Dec 9 by 11:59 pm</b>