Department of Geography & Geoinformation Science

GGS 307-001 [Hybrid Course Format] Fall 2022

Geographic Perspectives for Sustainable Development

Name	:	Maction Komwa, PhD	Meeting Times	:	R| 4:30 pm – 5:45 pm
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Email	:	mkomwa@gmu.edu	Virtual Office hours	:	T| R (1:30 pm – 2:30 pm)
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Graduate Teaching Assistant

Name : Szandra Peter (PhD Student)
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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.

Hybrid Course Format

This course will be delivered in a **hybrid-asynchronous** format. Meaning – an instructional delivery method which combines in-class meeting, with physical distancing protocols applied. The rest of the course material will be delivered online through the Blackboard. The format of this course will provide students with some flexibility in their learning during this COVIUD-19 pandemic.

- **In-person meeting will be on Thursdays [4:30 pm – 5:45 pm]**
- 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
    - 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/
            - MS Word, Excel, etc.
- 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.

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 httpp://itservices.gmu.edu; Email: support@gmu.edu; | Phone: 703-993-8870.

Course Activities

The course is designed to engage students with pre-class (online), in-person and post-class activities. These activities are graded and the instructor expects students to prepare well, read assigned materials before class meeting, participate in all assigned activities and work independently online to complete all assigned activities and discussions through the Blackboard by due dates. Some activities will require team work and such activities will be specified by the instructor.

The online class activities will provide students with a different style of self- such as reviewing course material, practicing and participating in online discussions.

Additionally, the course will involve **experiential learning component**, which will provide hands-on activities using geospatial technologies, local engagement such as visiting campus projects that address sustainability issues such as the Mason Food Desert, Hydroponic Projects. Students will also have the opportunity to visit the Sustainable Agriculture Farm in Alexandria.

Course Assignments and Grading Breakdown

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

Course Assignment Requirements Description	Allocated Percentage
Discussion Forum	5%
Reading Reflection Summaries	10%
GIS Application Labs	10%
Exam 1	15%
Exam 2	20%
Final Exam	25%
Assigned Topic by Instructor – (Presentation)	10%
Discussion Leader	5%

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 andconcept 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 three non-cumulative, *closed book* Exams. Each exam will contain objective (multiple-choice) and short-answer questions, Fill-in the blank questions. These exams will be monitored and taken through the Blackboard unless otherwise instructed. The exam will be timed, due on the date shown on the course calendar [Blackboard]. Skipping an exam will drastically affect your final grade!

Reading Reflection

The material covered each week is outlined on the course calendar (Blackboard or in the syllabus). I expect you to read the relevant parts of the assigned topics/chapter and other articles prior to class so that you can participate in class discussion and to reflect metacognitively on what you have read and absorb information by describing the following:

1. Most important concepts issues, factual information from the reading and justify your choices (**4 points)**
2. Identify some aspects of the reading you don't understand and briefly discuss why these are confusing elements of the topic/reading **(4 points)**
3. Pose a question to the reading – what is your curiosity about the topic, concept(s) from the readings? **(2 points)**

Your reading will be completed in advance before class meeting. Assessment of this assignment will be as follows:

- 10 points full credit for doing a great job (summary of ~250 words) turning on time, and demonstrating some actual reflection
- 5 points if the assignment is late, short, incomplete or lacks reflection
- 0 points are awarded for no show/submission

In your assignments, I expect you to cite all sources using APA-format. We will have a session on how to correctly

use APA-format. I encourage you all to attend a library orientation, which will assist you if you are unsure of literature citation standards. In the academia, it is very important for you to remember that at the end of every writing assignment or presentation you include a complete reference list.

GIS Lab Assignments

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 penaltiesare 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 -14 days) will result in a 50% deduction** and **after 14 days** will result into **75% deduction.**
- 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 timeyou 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 and discussions are accepted.
- Late assignment 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.

A "Life Happens Pass"

You will be given a "Life Happens Pass" for only 1 written assignment. This kind of arrangement is due to the unprecedented period that everyone is going through (COVID-19). Therefore, an automatic 72-hour extension will be given as long as you inform your instructor in writing.

Incompletes (IN) Grades

Incomplete (IN) grades will be assigned only in cases of compelling and documented need, in accordance with policies set forth in the University Catalog. For details regarding incomplete grades, please visit Undergraduate Academic Affairs through this website: https://chssundergrad.gmu.edu/other-forms/incompletes

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 postings 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 thoughtsand 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.*

- 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 | 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 PsychologicalServices (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.

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 | In-class Meeting	Topic description	Readings	Assignment short description and due date
1 1/27 >>	Course Overview	Syllabus	**Self-introduction (Discussion Board)**
	An Introduction to Sustainability • What is Sustainable development?	Chapter 1	
2 2/3 >>	**Sustainable Development Timeline** Pillars of Sustainability • The Environment | Society | The Economy • The UN Sustainable Development Goals (SDGs) & Indicators	Chapter 1 Check additional reading materials through the Blackboard	**Reading Reflection #1 – due 2/3-noon** **Discussion 1:** - Initial Post due Wednesday - Comments due Sunday
3 2/10 >>	**Geospatial Information and Sustainable Development** • Why Geography matters in Sustainable Development? • The Role of Spatial Scale and Spatial Interaction in SustainableDevelopment	Chapter 2 & 3	**GIS Application – Complete Tutorial due 2/13 | Discussion Leader (In-class)** **Discussion 2:** - Initial Post due Wednesday - Comments due Sunday
4 2/17 >>	**Measures for Measuring Sustainable Development** • Tools and Systems for measuring Sustainability	Check additional reading materials through theBlackboard Some sections from Chapter 1	**Reading Reflection #2 (2/17-noon) | Discussion Leader (In-class)** **GIS Application - Poverty Mapping (Indicators) – due 2/20**
5 2/24 >>	An Introduction to Life Cycle Assessment | Ecological Rucksack	Read some sections in Chapter 7 link LCA and business Articles to be posted through theBlackboard	**Reading Reflection #3 (2/24-noon) | Discussion Leader (In-class)**
6 3/3 >>	**Sustainable Solutions: Food and Agriculture** • Modern Agriculture • Sustainable Farming Systems: Different Places, DifferentSolutions	Chapter 8	**Discussion Leader (In-class)** **Discussion 3:** - Initial Post due Wednesday - Comments due Sunday
7 3/10 >>	Campus Tour on Sustainable Projects	Details to be posted through the Blackboard a week before the tour	**Start Food Production Mapping Assignment** Choose a topic provided by the Instructor and create a group of 2-3 members.
	GIS Application on Food Security	GIS hands-on Geospatial data – check Blackboard	
8 3/17	Spring Recess		*Nothing is due this week – use your time to continue working on Food Production Mapping Assignment*

Week | In-class Meeting	Topic description	Readings	Assignment short description and due date
9 3/24	**Forecasting Urban Futures | Sustainable Communities, Cities and Regions** • The Complexity of Urban Sustainability • The goals of Sustainable Communities • Case Studies on Sustainable Cities ○ Curitiba, Amsterdam, Denmark	Chapters 5 and 6	**Discussion 4:** - Initial Post due Wednesday - Comments due Sunday **Mid-Term Exam – due 3/27 | Discussion Leader(s)**
10 3/31	**Sustainable Business Practices** • Business and the Environment • Sustainable Economic Development as Eco-efficiency • Corporate and Business Institutions • Corporate Social Responsibility	Chapter 8	**Reading Reflection #4 (3/31-noon) | Discussion Leader(s)** **Discussion 5:** - Initial Post due Wednesday - Comments due Sunday **Submit your Food Production Mapping Assignment - due 4/3**
11 4/7	The 9 Planetary Boundaries • Climate Change • Freshwater use • Ocean acidification • Biodiversity loss	Chapter 11 Articles to be posted through theBlackboard	**Start Climate Mapping Assignment | Discussion Leader(s)** **Discussion 6:** - Initial Post due Wednesday - Comments due Sunday
12 4/14	In-class Climate Change Simulation Activity	Chapter 11 continued	**EXAM 2 – due 4/17**
13 4/21	Sustainable Waste Management: Solving our Garbage Problem • Case Study of Ankara gas landfill a circular economy • Case Study of Curitiba Sustainable City Future Perspectives of Sustainable Development • What kind of world do we actually want? • The Challenge of Sustainable Development	Articles to be posted through the Blackboard Chapter 13	**Discussion 7:** - Initial Post due Wednesday - Comments due Sunday **Submit your Climate Mapping Assignment – due 4/24**
14 4/28	**Final Project Presentations**		**[Check Presentation Roster through the Blackboard]**
15 5/5	**Final Project Presentations**		**[Check Presentation Roster through the Blackboard]**
16 5/12	**Final Exam**		Exam will be taken through the Blackboard on the Exam day assigned by Mason from 4:30 pm – 7:10 pm