Department of Geography & Geoinformation Science

Geography of Resource Conservation

GGS 303-001 [Hybrid Format] Spring 2024

Contact Details for Your Instructor

Name : Maction Komwa, PhD
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Course Details

Class Meeting Times	W| 12:00 – 1:15 pm
Location	Exploratory Hall 2312
Credit hours	3.00
Office Hours	M: 1:00 – 2:00 pm (Zoom) & W (1:30 pm – 2:30 pm)

Graduate Teaching Assistant

Name : Zheng Gong
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Learning Assistant

Name : Michael Hanson
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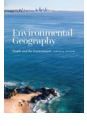
Course Description:

The course provides analysis of world resources distribution, conservation, and preservation; and problems resulting from their natural occurrence and utilization. Uses knowledge from physical and social sciences to develop complex and sophisticated understanding of issues surrounding natural resource exploitation and management, conservation, and preservation.

Required Textbook:



Environmental Geography: People and the Environment
Publisher: University of Nebraska Press (December 1, 2021)
ISBN-10: 1496228081 | ISBN-13: 978-1496228086

Course overview

Conservation of Resources and Environment addresses the physical, environmental, economic, and human aspects of the availability and use of resources. The conservation and use of natural resources involve all aspects of problems resulting from their unequal distribution or unwise use. Humans exist in an interdependent world where technology and the natural resources must work in a supportive and balanced manner or both the environment and the human population will suffer. Humankind must find ways to make technology and the natural environment work synergistically to guarantee long-term sustainable development that does no permanent harm to our living space.

In order to address this major topic in a sophisticated and holistic manner a number of subjects must be included in the discussion. The way in which resources are used has a major impact on the quality of life (including health and safety); the economic well-being of all peoples of the world; the level and type of conflicts that occur among peoples and nations; and the long-term protection of the total ecosystem.

Finally, throughout the semester, we will use and reflect the traditional use of geography, which integrates studies of physical and human phenomena to understand human use of the earth.

Learning Outcomes

As a GMU Synthesis course, this course will require students to synthesize the knowledge, skills and values gained from the Mason Core curriculum and expand each student's ability to master new content, think critically, and develop life-long learning skills across the physical and social sciences. Upon completing this synthesis course, students will achieve learning outcomes enabling them to:

1. Understand the importance of various natural resources and how they are managed at a local or global scale.
2. Outline the scientific method and distinguish fact versus opinion regarding conservation and environmental issues.
3. Evaluate and analyze the impact of resource exploitation, conservation and preservation.
4. Evaluate the science behind global warming and atmospheric carbon dioxide levels.

5. Discuss the role of GIS in conservation management and planning.
6. Apply critical thinking skills and quantitative reasoning to evaluate the quality, credibility and limitations of an argument or a solution using appropriate evidence or resources.
7. Communicate effectively in both oral and written forms, applying appropriate rhetorical standards (e.g., audience adaptation, language, argument, organization, evidence, etc.)

Instructional Format

This course embraces a hybrid format, offering weekly in-person sessions on Wednesdays at 12:00 PM - 1:15 PM for interactive engagement and lively discussions with your peers and me. Your learning continues beyond the classroom with comprehensive online materials readily available on Blackboard. Through this course, Blackboard becomes your gateway to additional resources, including: pre-recorded lectures, supplemental readings, interactive quizzes (for practice) and exercises, including discussion forums. You will connect with your peers, share insights, and collaborate on learning challenges.

In-person attendance is encouraged, but we understand life happens. For those with conflicting obligations, attending the sessions through Zoom is highly welcome. Ensure you stay connected and don't miss out on the interactive learning experience.

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

Engaging pre-class online activities, in-person sessions, and post-class work (on Blackboard) form the core of this course. All activities are graded. Be prepared to: read assigned materials beforehand, participate actively, and complete online tasks and discussions by due dates. Some activities involve teamwork (specified by the instructor).

Assignments and Evaluation

Course Assignment(s)	**Percentage (%)**
Discussion Forum	5%
GIS for Environmental Applications Lab	10%
Class Activities	7%
Exam 1	10%
Exam 2	15%
Final Research Project with Scaffolding Assignments	
• Topic description	1%
• Annotated Bibliography	2%
• Literature Review Summary	3%
• Draft	5%
• Peer-Review	2%
• Research Paper	25%
Group Poster Open Presentation	15%

Grading Scale

Range	Letter Grade	Grade description	Range	Letter Grade	Grade description
93 - 100	A	Excellent	77 - 79	C+	Satisfactory
90 - 92	A-	Very Good	70 - 76	C	Satisfactory
87 - 89	B+	Good with merit	60 - 69	D	Just OK
83 - 86	B	Good	<60	F	Failure
80 - 82	B-	Above satisfactory			

Assignment Description

Tests

The course content will be evaluated through two comprehensive exams. Each exam will primarily consist of objective questions in various formats to assess your ability to:

- *Analyze*: Break down complex information and understand its underlying components.
- *Apply*: Use course concepts to solve problems or answer questions in new contexts.
- *Synthesize*: Combine different ideas and theories from the course to form a cohesive understanding.

Expect a mix of question formats, including multiple-choice, true-false, matching, fill-in-the-blank, and short answer.

Engaging in Online Debates: Your Bi-weekly Challenge

- You'll dive into thought-provoking topics related to the course through online forums. Share your insights, build on classmates' ideas, and demonstrate your grasp of the material.

Requirements for this assignment

- Start the conversation: Post insightful comments or initial posting that generate debate and keep the discussion flowing.
- Respond to peers' posts, adding critical analysis and applying course concepts.
- Integrate assigned readings and demonstrate your scientific understanding of the topic under discussion.

Grading:

- Each post and response will be assessed based on scientific accuracy, critical thinking, and concept application. Expect "Unacceptable" (0 points) to "Excellent" (5 points) evaluations with detailed feedback. Check the Blackboard for the full rubric.
- *Important notes:* No make-up opportunities for discussion forums—engage on time!

Collaborative Research Project

Our course offers a comprehensive landscape view of resource conservation geography. However, diving deeper into specific challenges requires hands-on experience. Therefore, you will collaborate in teams and use your research skills to tackle pressing issues in resource management through a collaborative project.

Additional Instructions:

- Week 3/4 Launch: In early weeks, we'll work together to identify suitable research topics and map out your team's investigative journey.
- Beyond Textbooks: This project is your chance to sharpen practical skills like time management, problem-solving, and research presentation within a real-world conservation framework.

Digging Deep:

- Your final research paper will be judged not just by its clarity and organization, but also by the depth of your research and your ability to bridge the gap between classroom concepts and practical environmental operations.

Stay Tuned:

- More details about the final research paper format, including a comprehensive grading rubric, will be posted on Blackboard. Prepare to put on your explorer hats and embark on a collaborative research adventure that will deepen your understanding of the complex world of resource conservation.

Term Project Overview:

- *Teamwork:* This project will be completed by teams of two or three students.
- *Research Paper:* Each team will produce a research paper between 15 and 17 pages long (excluding title page and references), regardless of team size.
- *Collaboration:* Team members are expected to work together productively and equally throughout the research

and writing process.

- *Group Evaluation:* At the end of the semester, you will complete a questionnaire about your team experience, your individual contribution, and any challenges you faced in collaboration.
- *Instructor Support:* The instructor will provide guidance and advice on planning and organizing your research throughout the semester.

Formatting and Submission:

- *APA Style:* All final papers must follow APA formatting guidelines.
- *Font and Spacing:* Use 12-point Arial or Times New Roman font and double-space all content.

Additional Resources:

- *Sample Topics:* Sample research paper topics and issues will be posted on Blackboard for reference.

Final Presentation [Poster Session]

You will showcase your research project findings in a dynamic poster session open to the public, resembling a prestigious research conference. This is your chance to:

- Share your research project with a diverse crowd beyond the classroom.
- Design a visually captivating poster that showcases your research expertise and creativity and even attracting funding for conference presentations, if you're interested!
- Enhance your skills in translating complex ideas into succinct and effective messages impressing both peers and the audience
- Spark insightful conversations, answer questions, and gather valuable feedback from the audience, enriching your understanding of your research and gaining new perspectives.
- Gain valuable suggestions from the audience to further develop your project and presentation style.
- Challenge yourself to explain your research in fresh and accessible ways, building confidence and gaining a deeper understanding of your own work.

Specific details about poster structure, printing, and potential conference submissions will be discussed in class and shared through Blackboard.

GIS For Environmental Applications - Assignments

- In this course, you'll master practical skills to become a champion for environmental conservation and sustainability. We'll delve into the realm of geographic information systems (GIS) and basic remote sensing, empowering you to analyze land-use patterns, assess environmental threats, and optimize resource management. Through dedicated GIS Lab exercises, you'll gain hands-on experience in mapping critical biodiversity, identifying conservation corridors, and crafting data-driven plans for a thriving environment.

Late/Make-up Assignments Policy

Understanding Deadlines:

- Due dates are clearly stated in the syllabus and Blackboard course schedule. Assignments are due on these dates unless otherwise stated.

Flex Days:

- Recognizing that unexpected events happen, I have allocated two "flex days" for any two assignments throughout the semester. These days allow you to submit late work without penalty within 48 hours (2 days) of the original deadline.

Limitations:

Online Discussion and Quiz Exceptions:

- Please note that flex days do not apply to the online discussion forum. Timely participation is crucial for learning and collaboration, and therefore you are expected to:
    - Make your initial post by Wednesday.
    - Respond to at least two other students' posts by Sunday.
- Additionally, due to their formative nature and connection to discussed concepts, quizzes will not be subject to make-up opportunities

Late Deductions:

- After using your flex days, late submissions will incur point deductions:
- Each additional day after flex days: 5 points deduction (until no points remain)

Extenuating Circumstances:

- If unforeseen circumstances, such as illness or emergencies, prevent you from meeting deadlines, please reach out to me as soon as possible. We can discuss an extension or alternative solution on a case-by-case basis. Supplemental written documentation may be required.

Course Communication & Privacy

- Students are required to regularly check their Mason email account /Blackboard for announcements or updates related to the course.
- Students must use their Mason email account to receive important University information, including communications related to this class. I will not respond to messages sent from or send messages to a non-Mason email address.
- 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 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.

Student Responsibilities:

- Stay engaged with material, discussions, and deadlines.
- Respect classmates and express opinions courteously.
- Value and learn from diverse perspectives.
- Communicate clearly and professionally in writing.

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

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/).

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.*

Disability Accommodations

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

Diversity and Inclusion

George Mason University is committed to providing equal opportunity and an educational and work environment free from any discrimination on the basis of gender expression and identity, race, economic status, sex, sexuality, ethnicity, national origin, first language, religion, age and ability, 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.

Sexual Harassment, Sexual Misconduct, and Interpersonal Violence

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 (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 Privacy
George Mason University strives to fully comply with FERPA by protecting the privacy of student records and judiciously evaluating requests for release of information from those records. Please see George Mason University's student privacy policy https://registrar.gmu.edu/students/privacy.

Name and Pronouns Use
Mason is a community of learners of all genders and gender expressions. If you wish, please share your name and gender pronouns with me through the *Self-introduction Assignment* [Check Blackboard – Discussion Board] and indicate how best to address you in class and via email. I use [***He / him / his***] for myself and you may address me as "[**MK**]", "**Dr./Prof. [MK**]" in email and verbally. If you are in transition of changing your name and gender pronouns, please keep me posted during the semester so that I can address you accordingly.

Recording and/or sharing class materials
Electronic video, image capture, and/or audio recording is not permitted during in-class meeting unless the student obtains permission from the instructor.
As a faculty member who will spend a lot of time creating course material for classroom use, unauthorized sharing of any of my course materials outside the class would violate important ethical standards including the Mason Honor code

Absences & Accommodations

- **Religious Holidays:** Please refer to George Mason University's calendar of religious holidays and observations (http://ulife.gmu.edu/calendar/religious -holiday-calendar/). It is the student's responsibility to speak to the instructor in advance should their religious observances impact their participation in class activities and assignments.
- **Absence for documented illness:** Students who miss multiple virtual classes due to prolonged illness should seek medical care and provide documentation of such to the Dean's Office, which will communicate with the student's professor(s). A prolonged absence may necessitate the student's withdrawal from the course or from the University for the semester.
- At **the discretion of the professor:** There may be cases where an absence is undocumented but is, nevertheless, excused by the professor (e.g., absence due to a death in the family). Students should initiate a conversation with their professors about the nature and duration of the absence, in advance of the absence whenever possible.

When absences are excused, students remain responsible for all assigned work, and shall be provided with the opportunity to make up, without penalty, any work that they have missed.

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

Week | Date		Topic Description	Readings	Homework Due date & Time [11:59 pm]
1	1/17	Course Overview	Syllabus	Self-introduction
2	1/24	Conservation: History and Future New Tools for Resource Management (GIS & Remote Sensing)	Additional Readings GIS Hands-on Activity	Self-introduction
3	1/31	Introduction: How Humans Affect the Environment (Environment & Humanity)	Section I	Discussion 1: Initial posting due Wednesday Response to 2-3 Classmates due Sunday Intro to GIS – 2/4
4	2/7	Agriculture & Food Challenges	Section I GIS Hands-on Activity	Group Research Topic – 2/11
5	2/14	Human Population Challenges	Additional Readings	GIS Lab Assignment – 2/18
6	2/21	Environmental Economics & Tragedy of the Commons **| Test 1 [Take-home]**	Additional Readings GIS Hands-on Activity	**Test 1 due 2/25** Annotated Bibliography – 2/28
7	2/28	Introduction: How Humans Affect the Environment – Part 2 [Case Studies: Habitat and Wildlife, Drought, Protected Areas and National Parks)	Section II:	Discussion 2: GIS Lab Assignment – 3/3
8	3/6	**Spring Recess [No Classes]**		
9	3/13	Climate Change: Case Studies | Climate Change Simulation	Section II Additional Readings	Discussion 3 GIS Lab Assignment - 3/17
10	3/20	Introduction: Sustainable Management of Natural Resources – Case Studies: Renewable Energy, Sustainable Cities, Water Conservation)	Section III GIS Hands-on Activity	Literature Review – 3/24
11	3/27	Conservation, Biodiversity, and Sustainability |	Section III & Additional Readings	Discussion 4: GIS Lab Assignment – 3/31
12	4/3	Environmental Ethics and Justice | Simulation Activity	Section III	Draft – 4/7 Group Poster Outline – 1 Class Discussion
13	4/10	**Test 2 [In-class] | Group Meetings during Week 13**	**Test 2 [In-class]**	Peer Review - 4/14 Group Poster Outline – 2 Class Discussion
14	4/17	Managing the Global Environment | Final Poster Designing	Additional Readings	Poster Printing by 4/22
15	4/24	**Final Presentation – Poster Session [GGS Open Space]**		
16	5/1	**Finalize your Final Group Research Paper due 5/5**		