



## Department of Geography & Geoinformation Science

### Geography of Resource Conservation

GGG 303-001 [Hybrid Course Format] Fall 2022

#### Contact Details for Your Instructor

#### Course Details

Name : Maction Komwa, PhD	In-person Class Meeting Times	M   12:00 – 1:15 pm
Office : Exploratory Hall, Room 2414	Location	Innovation Hall 222
Email : <a href="mailto:mkomwa@gmu.edu">mkomwa@gmu.edu</a>	Credit hours	3.00
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#### Graduate Teaching Assistant

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#### Learning Assistant

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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 Textbooks:



Natural Resource Conservation: Management for a Sustainable Future. 10<sup>th</sup> Edition  
Daniel D Chiras Daniel Chiras John P Reganold John Reganold  
ISBN: 0132251388  
ISBN-13: 9780132251389

#### Recommended Textbook: Aldo Leopold's - A Sand County Almanac

#### 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. planning.

## 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.)

## 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 COVID-19 pandemic.

- **In-person meeting will be on Mondays [12:00 pm – 1:15 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/](http://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 <http://itservices.gmu.edu>; Email: [support@gmu.edu](mailto: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.

## 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 the dates outlined in the syllabus.

Course Assignment(s)	Percentage (%)
Discussion Forum	5%
Scaffolding Writing Assignments	10%
GIS Application Labs	10%
Online Practice Quizzes	5%
Mid-Term Exam	10%
Exam 2	20%
Draft (3%) and Peer-Review (2%)	5%
Term Group Research Project - Final Group Research Paper (25%)	25%
Group Oral Presentation	10%

### Grades will be assigned based on the distribution scheme below

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			

## Exams

There will be 2 Exams [Exam 1 and Mid-Term Exam]. The exam will be mostly objective in nature with questions that will allow students to analyze, apply, and synthesize lecture, videos and homework concepts and reading material. Exam may include multiple-choice, true-false, matching, fill-in the blank, and short answer questions.

## Online Discussions

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 every other week.

### Requirements for this assignment

- Post your initial topic-related and thought-provoking comments that foster interaction and discussion.
- Then you will provide well-articulate response to a series of online discussions from you classmates to keep the discussion on-going throughout the week when the assignment is assigned. This will demonstrate your class participation as a whole including each week's assigned readings.
- The instructor and the GTA will monitor the discussion and provide comments accordingly.
- 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.*
  - *Absolutely, no make-up will be given for Discussion Forum.*

## Term Research Project and Oral Project Presentation

Our class lectures/discussion will cover so many topics on geography of resource conservation. These lectures cannot go into depth on any of these topics. Therefore, you will work in teams to execute a collaborative research project addressing an issue in resource conservation and management more thoroughly. In week 4 of the semester, your team will be assisted to select a suitable topic and organization of the research process.

By completing this research project, it is expected that you will gain practical research experience such as time management, problem solving, and ability to present orally within the context of research framework. Evaluation of this paper will depend heavily on the depth of your research and ability to link class concepts to real-world of conservation and environment operations. More details regarding final research paper including grade rubric will be posted through the Blackboard.

### The term project will be completed in teams of three.

- *Team projects* should be 15 or so pages long (excluding title page and references). Although each team member has different academic interests, the group will plan and produce a collective output in a productive way. The instructor will advise students on the appropriate organization of the research process. though each member will be required to put equal amount effort and writing.
- *All final papers must comply with APA standards.* Use 12-point arial or Times New Roman font and double space all content.
- Previous sample term research paper topics and issues will be posted through the blackboard.
- Final project presentations will be done towards the end of the semester.
- You will have an opportunity to explain to your classmates the nature of your term project and findings.
  - Presentations will be 15 minutes long. More details on the final presentations (roster, actual time of presentation, etc.) will be discussed in class. Throughout the semester, you will be assi Your writing will be evaluated using the following criteria

## Scaffolding Writing Assignments

- **Mason Core classes** are critical for engaging students in various activities including substantial amount of writing. I will scaffold the assignments, so that you can build on your research capabilities and be sure that you know how to successfully complete the final research paper. Some of these assignments will be for you to develop research questions and do some research using our Mason library databases in order to look for appropriate sources. Assignments on how to work with sources and how these sources relate with one another, assignments on how to develop drafts and revise just to mention a few.
- You will get feedback on these assignments from the instructor, GTA or your peers before moving on to the next assignment.

## GIS Lab Assignments

Solutions to environmental problems and conservation of natural resources are many. In this course you will have the opportunity to learn some technological solutions that are of increasing value and used in many areas of resource management such as geographic information systems (GIS) and basic remote sensing. You will complete projects that are representative of geospatial applications. You will then apply these geospatial tools to better manage and plan the natural resources and environment.

## Student Responsibilities:

- 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.
- 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 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.

## Late/Make-up Assignments Policy

- Due dates for all assignments are provided in the course schedule as well as the Blackboard. Unless otherwise specified all assignments are due on those dates. It is the responsibility of the student to ensure that the assignments are submitted by the established due date.
- Assignments turned in **within seven (7) days will result in a 25% deduction** for the assignment. Assignments **later than 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.
- In some subjects/assignments no late assignments will be accepted for credit. Such assignments include discussion forum and end of chapter quiz.
- No make-up Exams or extensions on assignments will be given without a valid reason that is supported by documented evidence.
- Work is NOT accepted via e-mail, unless the instructions specifically say otherwise. Submit your work through the Blackboard accordingly.
- Please do not wait until the last minute (11:59 pm – Eastern Time) for you to complete your assignment - computers are machines and sometimes they cannot be reliable (e.g. power outage, wireless connection problem etc.) and cannot be held accountable for your excuse.

## 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>

## 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 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.

## 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.*

## **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](mailto:ods@gmu.edu) | Phone: (703) 993-2474.

## **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 (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 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>.

## **Recording and/or sharing class materials**

Some kinds of participation in online study sites violate the Mason Honor code: these include accessing exam or quiz questions for this class; accessing exam, quiz, or assignment answers for this class; uploading of any of the instructor’s materials or exams; and uploading any of your own answers or finished work. Always consult your syllabus and your professor before using these sites.

Electronic video, image capture, and/or audio recording is not permitted during in-class meeting, or online, 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.

## **Undergraduate Course Repetition**

Beginning fall 2018, there is a limit of three graded attempts for this course. A “W” does not count as a graded attempt. Please see AP. 1.3.4 in the University Catalog and consult with your academic advisor if you have any questions.

## **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>

## 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.

### Class Change Policy:

In the event that the University wants us to go fully online/Distance Learning, you will be notified about the changes through email and/or Blackboard as soon as possible. On the same note, there will be no face to face class meeting after Thanksgiving. All remaining classes will be through Zoom or guided recorded lectures.

### Withdraw from a course

If for some reasons you decide not to continue with this course, students should follow the official GMU procedures and policies of course withdraw. By informing the instructor your intention to withdraw from the course or by just stop attending - "NOT SUFFICIENT" for GMU to accept the withdraw from the course. If you name still appears on the official roster for the class and you have earned a "0" grade, you will get "F" as your final grade.



**Tentative Course Schedule** –Dates indicated in the Table below will be for In-Person Class Meeting, additional course material for the assigned week will be posted through the Blackboard.

Week   In-class Meeting	Topic Description	Textbook Chapters & Supplemental Readings	Homework   Activity Due date & Time (Time is consistent - 11:59 pm)
<b>1</b> 1/24 >>>	Course Overview and Introduction	Syllabus	Self-introduction due end of Week 1
	Introduction to Natural Resource Conservation Views of Natural Resource Management	Chapter 1 The State of Nature	
<b>2</b> 1/31 >>>	Historical and Current Conservation	Chapter 1 Case Study: 1.1 The Earth Summit and Beyond	<b>Discussion 1:</b> - Initial Post due Thursday - Comments due Sunday  Class Debate on the State of Nature [Group 1: Carl Pope and Group 2: Bjorn Lomborg] <i><b>SWA #1 (Close reading and Comparative Analysis – Carl Pope and Bjorn Lomborg) - 2/6</b></i>
	Classification of Natural Resources Tragedy of the Commons	Land Ethic – Aldo Leopold The Tragedy of the Commons	
<b>3</b> 2/7 >>>	New Tools for Resource Management (GIS & Remote Sensing)	Introduction to GIS Chapter 1	<b>Quiz # 1 due Friday – 2/11</b>  <b>GIS Application (Introduction) Assignment #1 - 2/13</b>
	Conservation Planning using GIS Application	Article through the Blackboard	
<b>4</b> 2/14 >>>	Introduction to Resource Economics Externalities and Policy Interventions	Chapter 2	<b>Discussion 2:</b> - Initial Post due Thursday - Comments due Sunday  <i><b>How to formulate research topic and questions? – SWA2 -2/20</b></i>
	Pollution abatement   Cost-Benefit Analysis	Chapter 2   Articles	
<b>5</b> 2/21 >>>	Environmental Ethics and Justice Simulation Class Activity	Chapter 2   Simulation Activity Pre-Reading (Environmental Justice)	Environmental Justice Simulation [Group Class Activity]  <b>Quiz # 2 due Friday – 2/25</b>
<b>6</b> 2/28 >>>	Understanding Populations and Population Growth  Demographic Transition	Chapter 4	<b>Discussion 3:</b> - Initial Post due Thursday - Comments due Sunday  <i><b>Annotated bibliography assignment (SWA#3) – 3/6</b></i>
<b>7</b> 3/7 >>>	<b>MID-TERM EXAM</b>  Population Measures, & Tool: GIS & Mapping	<b>Mid-Term Exam on Chapters 1, 2, 4 and assigned readings]</b> GIS Data – BB] [GTA and LA – to provide some GIS tips]	<b>ONLINE MID-TERM EXAM</b>  Exams will be posted through the Bb.  <b>GIS Application Assignment # 2 (Mapping Census Data) 3/13</b>



Week   In-class Meeting	Topic Description	Textbook Chapters & Supplemental Readings	Homework   Activity Due Date
<b>8</b> 3/14>>>	<b>Spring Recess</b>		
<b>9</b> 3/21>>>	Forest Management & GIS Application (Monday classes meet on Tuesday for this week)	Chapter 14 Land-cover Mapping article [BB]	<b>Discussion 4:</b> - Initial Post due Thursday - Comments due Sunday  <i>A literature review summary [SWA#4] – 3/27</i>
<b>10</b> 3/28>>>	Managing Water Resources Sustainably and Water Pollution	Chapter 10 Planet or Plastic? Article	<b>GIS Application Assignment #3 (Predict deforestation in the Amazon rain forest) - 4/3</b>
<b>11</b> 4/4 >>>	Global Warming & Climate Change	Chapter 19	<b>Discussion 5:</b> - Initial Post due Thursday - Comments due Sunday
<b>12</b> 4/11 >>>	Climate Change Simulation Activity	Simulation Activity Pre-Reading Chapter 19	<b>Quiz # 3 due Friday 4/15</b>  <i>Draft– 4/17</i>
<b>13</b> 4/4 >>>	Plant and Animal Extinction	Chapter 15  Exam Review [GTA and LA – date to be determined within Week 12]	<b>Discussion 6:</b> - Initial Post due Thursday - Comments due Sunday <b>GIS Application Assignment #4 – (Biodiversity – Mapping Invasive species)</b>
<b>14</b> 4/18 >>>	<b>Exam 2</b>  Creating a Sustainable System of Energy	Chapter 23	Online Exam 2 will be on Chapters 10, 14, 15 & 19 plus assigned readings. Exams will be posted through the Bb.  <i>Peer Review Assignment – 4/22</i>
<b>15</b> 4/25 >>>	<b>Group Project Presentation #1</b>		Submit your Summary Presentation & PowerPoint through Bb.
<b>16</b> 5/2 >>>	<b>Group Project Presentation #1</b>		Submit your Summary Presentation & PowerPoint through Bb. <b>Submit your Final Research Paper on 5/8</b>
<b>Exam Week</b>	<b>No Final Exams</b>		

*The instructor reserves the right to make changes to this syllabus at any time and any changes made will be communicated to the students through the Blackboard*

**Learning Assistant**

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