



Department of Geography & Geoinformation Science

Geography of Resource Conservation

GGG 303-001

Fall 2022

Contact Details for Your Instructor

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Course Details

Class Meeting Times : MW | 12:00 – 1:15 pm
Location : Exploratory Hall 2103
Credit hours : 3.00
Office Hours : R (1:30 pm – 3:00 pm)

Graduate Teaching Assistant

Name :
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Virtual Office hours: TBA

Learning Assistant

Name : Abrianna (Bri) Lowery
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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. 10th Edition
Daniel D Chiras Daniel Chiras John P Reganold John Reganold
ISBN: 0132251388
ISBN-13: 9780132251389

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.)

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; | Phone: 703-993-8870.

COVID-19 Requirements

There are currently no Covid-19-related university-wide policies that will affect teaching and learning, however, students are encouraged to check the [Safe Return to Campus](#) site to keep track of any updates and changes.

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%
GIS for Environmental Applications Lab	10%
Practice Quizzes out of 6 [Lowest grade will be dropped)	5%
Debate and Simulation Activities/Simulation Reflection	5%
Mid-Term Exam	10%
Exam 2	15%
Final Research Project	
• Topic description	1%
• Annotated Bibliography	2%
• Literature Review Summary	3%
• Draft	3%
• Peer-Review	1%
• Research Paper	30%
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 3 or 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 two or three

- *Regardless of the numbers per team, your research paper should not be less than 15 or so pages long (excluding title page and references) but not exceeding 17 pages. Although each team member has different academic interests, the group will plan and produce a collective output in a productive way. Each member will be required to put equal amount effort and writing. At the end of the semester, you will complete a group collaboration questionnaire indicating the role of your engagement or any shortfalls observed during the process of preparing group presentation including writing your final research paper. The instructor will advise students on the appropriate organization of the research process throughout the semester.*
- *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.

GIS For Environmental Applications - 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 GIS Lab assignments designed to support Conservation of natural resources. Through these GIS Lab exercises, you will become familiar with geospatial tools to better manage and plan the natural resources and environment.

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 | 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.

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>.

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.

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

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)
1	8/22	Course Overview	Syllabus	Self-introduction due end of Week 1
		Self-Introduction		
	8/24	Introduction to Natural Resource Conservation Views of Natural Resource Management	Chapter 1	Complete Assigned Readings Ready for Debate – Week 2 [State of nature]
2	8/29 & 8/31	Historical and Current Conservation	Chapter 1 Case Study: 1.1 The Earth Summit and Beyond State of the nature [Article]	Discussion 1: <ul style="list-style-type: none"> ○ Initial Post due Thursday ○ Comments due Sunday Class Debate on the State of Nature [SoN] <ul style="list-style-type: none"> ○ Group 1: Carl Pope ○ Group 2: Bjorn Lomborg] Submit Reflection on Class SoN Debate – 9/4
		Classification of Natural Resources Tragedy of the Commons	Land Ethic – Aldo Leopold [Article] The Tragedy of the Commons [Article]	
3	9/5	Labor Day – No classes		
	9/7	New Tools for Resource Management (GIS & Remote Sensing)	Chapter 1 Introduction to GIS	Quiz # 1 due Friday – 9/9 Intro to GIS Application Assignment #1 - 9/11
		Conservation Planning using GIS Application	Article through the Blackboard	How to formulate a topic & research Questions?
4	9/12	Introduction to Resource Economics Externalities and Policy Interventions	Chapter 2	Discussion 2: <ul style="list-style-type: none"> ○ Initial Post due Thursday ○ Comments due Sunday Group Formation according to topic preference – 9/12
	9/14	The Tragedy of the Commons Environmental Ethics and Justice	Chapter 2 Simulation Activity on the Tragedy of the Commons	Quiz # 2 due Friday – 9/16 [Online] Topic description – Group – 9/18
5	9/19	Understanding Populations and Population Growth Demographic Transition	Chapter 4	Discussion 3: <ul style="list-style-type: none"> ○ Initial Post due Thursday ○ Comments due Sunday
	9/21	Population data, distribution, & Composition Population Measures, & Tool: GIS & Mapping [Hands-on Activity]	Chapter 4	GIS Application Assignment #2 – Mapping Census Data – 9/25
6	9/26	Forest Management -1	Chapter 14 Land-cover Mapping article [BB]	Quiz # 3 – In-class

Week In-class Meeting		Topic Description	Textbook Chapters & Supplemental Readings	Homework Activity Due date & Time (Time is consistent - 11:59 pm)
6	9/28	MID-TERM EXAM [Chapters 1, 2, 4 and assigned readings such as the ToC & State of Nature]		
7	10/3	Forest Management – 2 Predicting Deforestation in the Amazon Forest using Geospatial Tools [Hands-on...]	Chapter 14	-
	10/5	Managing Water Resources Sustainably - 1	Chapter 10	GIS Application Assignment #3 (Predict deforestation in the Amazon rain forest) – 10/10
8	10/11	Managing Water Resources Sustainably - 2	Chapter 10	Discussion 4: <ul style="list-style-type: none"> ○ Initial Post due Thursday ○ Comments due Sunday
	10/12	Water Pollution - 1	Chapter 11 Planet or Plastic? Article	Annotated bibliography assignment – 10/16
9	10/17	Water Pollution – 2	Chapter 11 Simulation Activity on water pollution	Complete Pre-Readings on Water Pollution Simulation
	10/19	Global Warming & Climate Change Climate -1	Chapter 19 Simulation Activity Pre-Reading	Quiz # 4 due Friday - 10/21
10	10/24	Global Warming & Climate Change Climate -2	Chapter 19	Complete Pre-Readings on Climate Change Simulation articles
	10/26	Simulation Activity on Climate Change	Simulation Activity on Climate Change	A literature review summary Assignment – 10/30
11	10/31	Plant and Animal Extinction - 1	Chapter 15	
	11/2	Plant and Animal Extinction -2	Chapter 15	Quiz # 5 – In-class (part of Exam 2 Review)
12	11/7	EXAM 2 [Chapters 10, 11, 14, 15 & 19 including Assigned Readings]		
	11/9	World Hunger: Solving the Problem Sustainably - 1	Chapter 4	GIS Application Assignment #4 – (Biodiversity – Mapping Invasive species) – 11/11 Draft 11/13
13	11/14	World Hunger: Solving the Problem Sustainably – 2	Chapter 4	-
	11/16	Creating a Sustainable System of Energy-1	Chapter 23	Quiz #6 – 11/18 [Online] Submit your Peer-Review/Comments - 11/20
14	11/21	Creating a Sustainable System of Energy -2 Start Final Presentation	Chapter 23	Submit your Summary Presentation & PowerPoint through Bb
	11/23	Thanksgiving – No Classes		
15	11/30	Final Presentation		Submit your Summary Presentation & PowerPoint through Bb
	12/4	Final Research Paper		Submit your Final Research Paper on 12/4
12/5 & 12/7		Reading Days		
Exam Week		No Final Exam		

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