Department of Geography & GeoInformation Science

GGS 303-001: Geography of Resource Conservation

Spring 2017

Instructor Contact Details

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Course Details

Meeting Times	:	MW | 12:00 – 1:15 pm
Location	:	Exploratory Hall, Room 2310
Office hours	:	Wednesdays, 2:00 – 3:30 pm
Credits	:	3.000

Required Textbook: Natural Resources Conservation; Management for a Sustainable Future (10th Edition).
Daniel D. Chiras, John P. Reganold
ISBN-13: 978-0132251389 ISBN-10: 0132251388 Edition: 10th
Available at the George Mason University (GMU) Bookstore or on Amazon

Prerequisites: At least 30 total credit hours, completion or concurrent enrollment in all university general education courses or permission of instructor.

Course description

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.

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 involves 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 in order 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.

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. Understand a global distribution of the earth's resources.
3. Evaluate and analyze the impact of resource exploitation.
4. Understand the concepts of conservation planning and sustainability of human utilization of natural

resources

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

Grading and Assignments

There will be two in-class examinations (a midterm and a final), one final group presentation and group paper on a topic of your group interest based on the concepts and themes of the course. Additionally, students will also complete homework assignments consisting of short papers based on assigned readings or other exercises.

Grading Policy

The following grading criteria will be used to determine your final grade:

Assessment	Points	% (of final grade)
Short Writing Assignment (5) [20 points each]	100	20
*Participation on Practice online quizzes [5] & In-class Participation	50	5
Blackboard Discussion (4)	50	5
Midterm Exam	100	15
Final Exam	100	20
Final Group Presentation	75	10
Final Group Paper	100	25
Total Possible Points	**575**	**100**

*Participation will include online quizzes and in-class discussions

Grading Scale

Grade	Percentage	Grade	Percentage	Grade	Percentage	Grade	Percentage
A+	98 -100%	B+	88 – 89%	C+	78 – 79%	F	below 60%
A	93 -97%	B	83 – 87%	C	70 – 77%		
A-	90 -92%	B-	80 – 82%	D	60 – 69%		

All late submission will be downgraded to 5 points for each day accordingly.

Short Writing Assignments will provide an opportunity for students to apply the concepts presented in lectures and to develop problem-solving and critical thinking skills. The Blackboard will be used to check detailed instructions and submission of these assignments.

Note*: *SafeAssign *(Blackboard Plagiarism Prevention Tool) will be used to check your written submissions for plagiarism.*

No make-up Exams will be given without a valid reason that is supported by documented evidence.

Group Semester Project

A group will comprise three - four students who will make a final presentation about the geography and conservation of a natural resource topic as per class discussion. The project will consist of a series of assignments, which will be completed in your small groups. The details for the assignments are presented below:

i. One page or less description of a problematic topic of your group choice relevant to conservation and use of environmental resources. In your write-up identify a problem statement or research questions. Show why the problem is problematic. Motivate your readers to see the problem's importance. Details of the project will be discussed in class.

ii. Final Group Presentation. Each group will present their term project relevant to conservation or environmental management subject of interest to you. The team will be given 10-15 minutes of PowerPoint presentation including Q&As.

iii. Group Final Written Paper. This will be a written team project relevant to conservation or environmental management. Details of the group project will be given later during the semester.

Class Participation

You will be evaluated on your participation in class during our discussions. I am expecting each to be actively engaged in the discussion process during each class. You cannot participate fully if you don't show up for classes. Class participation will be graded accordingly: answering questions as well as asking questions, active listening while others are talking, bringing up points of interest for discussion either in class or through the Blackboard Discussion Forum. Such being the case it is very important that you do your reading assignments prior to our class meeting.

Classroom Expectations:

Students are expected to be on time for class. Regular attendance is strongly recommended.

1. Should circumstances arise that make you late, do not disrupt the class as you enter, take the first available seat and do not walk across the room.
2. In the event of any class cancellation, including inclement weather (e.g. snow), the class will resume where we left off, Adjustments, if necessary, will be made later.
3. For each hour of in-class time you should anticipate three hours to complete out-of-class work and preparation.
4. Cell Phones and pagers must be turned off during class. Zero tolerance!

Academic Honesty: George Mason University operates under an honor system, which is published in the University Catalog and deals specifically with cheating, attempted cheating, plagiarism, lying, and stealing. Please familiarize yourself with the honor code, especially the statement on plagiarism (http://www.gmu.edu/org/honorcouncil/guidelines.htm).

I will respond to acts of academic misconduct according to university policy concerning plagiarism. In such cases Plagiarism will result in a failing grade of the assignment in question and/or for the course. Make sure you check the instructions through the Blackboard on how to write your term papers. If you have questions about when the contributions of others to your work must be acknowledged and appropriate ways to cite those contributions, please talk with the professor.

University Services

George Mason University has a number of 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. Writing Center [http://writingcenter.gmu.edu/] and other Learning Services within GMU.

iv. University Catalog: http://catalog.gmu.edu/ | University Policies: http://universitypolicy.gmu.edu/

Absences & Accommodations

Students are expected to attend all classes and to complete all assignments on time. Absences may have an adverse effect on grades in a course including failure.

Excused absences: In certain circumstances, absences may be excused. These include:

- **Absence for religious observances:** Students must notify their professors in writing at the beginning of the semester of religious observances that conflict with classes. Students who cannot be accommodated should discuss the matter with a dean.
- **Absence for athletic travel:** Student-athletes must provide their professors with a travel letter at the beginning of the semester which highlights potential absences. Students who cannot be accommodated for some or all absences should discuss the matter with the relevant Academic Coordinator for Student-Athletes.
- **Absence for documented illness:** Students who miss multiple 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 professors. 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.

Students with Disabilities

Students with documented and qualifying learning, physical and psychological disabilities should contact the Disability Services (ODC), which arranges for reasonable accommodations in accordance with the Americans with Disabilities Act and University policies. In order to arrange accommodations in each course, the student must present his/her professors with a letter from the ODC outlining the recommended accommodations at the beginning of the semester. Disability Services (ODC) website: http://ods.gmu.edu/] / Student Union Building I (SUB), Room 2500. Telephone: (703) 993-2474.

Tentative Outline of Topics and Assignment due date

Date	Topic Description	Reading |Assignment
1/23	Introductions and Course Overview	
	Chapter 1: Introduction to Natural Resource Conservation: Themes & Concepts	
1/25	Introduction: The Earth's natural resources and Resource Conservation	Chapter 1
1/30	Natural Resource Conservation & Management: Past, Present & Future continued…	**Short Writing Assignment # 1 [Announced]** Read 1.1 – 1.2 [Online Self-introduction due]
2/1	History of the Resource Conservation, Environmental, and Sustainability Movements | Natural Resources Classification	*START Online class Discussion on Conservation of Resources – [check BB through Discussion Forum]*
2/6	Tools for resource Management (GIS and Remote Sensing) Risk & Risk Assessment	**Short Writing Assignment # 1 due [BB]** Read 1.7 – 1.9 Read Summary for the Chapter **Practice Quiz for chapter 1 – Participation [1]** Class preparation/task assignment on "The State of Nature" group discussion
2/8	*Class Group Discussion on Contrasting Views of Natural Resource Management [A Nature-Centered & Human-Centered View]*	*Read article on The State of Nature by Carl Pope and Bjorn Lomborg* *[Class divided into 2 groups for discussion]* *END - Online class Discussion on Conservation of Resources* ***Group Formation for Final Project***
	Chapter 2: Environmental economics and ethics	
2/13	Introduction to environmental & Natural Resources Economics	*Chapter 2* *START Online class Discussion on sustainable economies* **Short Writing Assignment # 2 [Announced]**
2/15	Externalities and Policy Interventions | Sustainable Economies	*Chapter 2*
2/20	Common Property Resource Problems *Class Group Discussion* *Why do we care about nature? Environmental ethics and critical thinking*	**Practice Quiz for chapter 2 - Participation [2]** Read "The Tragedy of the Commons" – check Article through the BB *Read issue 2.1: Ethics in resource conservation* *END Online Discussion on* sustainable economies **Short Writing Assignment # 2 due**

Date	Topic Description	Reading |Assignment
	Chapter 19: Global Warming & Climate Change	
2/22	Global Climate and Evidence for Present Climate Change	*Chapter 19* *START Online class Discussion on climate change*
2/27	Causes of Present Climate Change Climate Models and Forecast	**Practice Quiz for chapter 19 – Participation [3]**
3/1	Implications of climate change Class Group Discussion: Debate over Global Warming | Mid-Term Exam Review | Handout on The Ross Sea Simulation Class Activity *END Online class Discussion on climate change*	
3/6	**Mid-Term Exam**	
	Chapter 9: Aquatic Environments [The Ocean]	
3/8	*Simulation Activity* *Preservation and Restoration of Ocean Habitat [The Case Study of "The Ross Sea"] – Handouts will be given in advance*	
3/13	**Spring Break**	
	Chapter 4: Human Population, Consumption, and Environment | Chapter 5: World Hunger	
3/20	Historical trends in human population size & geographical distribution | The U.S. Population Picture Demographic Transition Concept	*Chapter 4* **Short Writing Assignment # 3 [Announced]**
3/22	Human Population Challenges & geographical variation in human consumption patterns Human Population & Environmental impacts/mitigations	**One-Page Group Topic description** **Issues & Analysis Discussion:** Spatial Thinking Activity: Mapping Population Data **Practice Quiz for chapter 4 – Participation [4]**
3/27	World Hunger: Solving the Problem Sustainably	**Chapter 5 & Article TBA**
3/29	**World Hunger: Solving the Problem Sustainably continued [**How Will We Feed a World of Nine Billion People?] | **Short Writing Assignment # 3 due** *Class Group Discussion* *Debate on high population growth as principal causes of global environmental problems*	
	Chapter 10 & 11 – Water: Resources Management and Pollution	
4/3	Global Water Challenges & Kinds of Water Use	*Chapter 10* *[START online class discussion on water resources]*
4/5	Managing Water Resources Sustainably	Case Study 10.1: The Great Mississippi Flood of 1993 **Short Writing Assignment # 4 [Announced]**
4/10	Kinds and Sources of Water Pollution	*End online class discussion on water resources* PBS Video: Poisoned Water Issues & Analysis Discussion: *11.1 The Zebra Mussel* *11.2. Invisible Threat: Toxic Chemicals in the Great*

		Lakes
Date	**Topic Description**	**Reading |Assignment**
4/12	***First Group Presentation***	
	Chapter 14: Forest Management	
4/17	Forest Ownership & The US Forest Service	**Short Writing Assignment # 4 due**
	Harvesting Trees and Reforestation	**Chapter 14**
4/19	Forest Conservation George Mason Pond Forest Patch Field Visit	Class Group Debate on Forest Management **Short Writing Assignment # 5 [Announced]** **Progress Report on Final Paper (Draft)**
	Biodiversity & Conservation Planning	
4/24	Introduction to biodiversity & Conservation Community-Based Management	**Chapter 15 | Additional articles TBA (Check BB]** **Practice Online Quiz for chapter 4 – Participation [5]**
4/26	***Second Group Presentation***	
	Chapter 23: Creating a Sustainable System of Energy	
5/1	Global Energy Sources Energy Conservation & Energy Efficiency Americas Energy Future & Renewable -Energy Strategies	**Short Writing Assignment # 5 due** **Issues & Analysis Discussion:** Solar Electricity Enters the Mainstream Case Study: The Three Gorges Dam
	Chapter 7: Soil Conservation & Sustainable Agriculture	
5/3	Soil Loss GIS for Sustainable Agriculture & Food Security Final Exam Overview	**Short Writing Assignment -Make-up** **Final Group Paper due**
5/8	***Reading Day***	
5/15	**Final Exam [10:30 am – 1:15 pm]**	

**Online class Discussion | Online Practice Quiz: No make-up for these assignments – It is your responsibility to check the Blackboard for due date.*

Syllabus Changes

The course instructor reserves the right to make changes as necessary to the course content and office hours during the course of the term. If these changes are made they will be immediately notified to students through individual emails or the blackboard explaining the nature of the change(s).

Note: Assignment due date will be included in the assignment handout instructions/blackboard. You will be required to upload your short paper assignment(s) through the Blackboard unless otherwise instructed.