

GEOG 335: Earth Resources and the Environment

Spring 2023 Mon/Wed 2:30-3:45pm, WRI C151

Faculty:

Dr. Gabriel Judkins

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Office Hours:

Monday 1:00pm, Tuesday 12:00pm and by appointment

Course Format:

Interactive lectures/discussions twice weekly with notes provided through WebCampus

Recommended Textbook:

Earth Resources and the Environment (4th ed), by J.R. Craig, D.J. Vaughan and B.J. Skinner

Prerequisites:

No university prerequisites

Purpose of this class:

This course examines the range of Earth resources that have been identified as useful to humans and explores the impacts of resource procurement, use and disposal on the environment. Specifically, the geologic origin, availability, exploitation and use of nonrenewable natural resources are studied. Nonrenewable natural resources covered in class include both metallic and nonmetallic as well as energy resources. Additionally, this class will explore renewable energy resources, along with the fundamentally basic but frequently underappreciated resources of water and soil. The consideration of all these Earth resources ranges far beyond their mere geologic occurrence and will explore socio-political and economic perspectives underlying the definition, valuation and use of materials considered to be natural resources.

Learning outcomes of this class:

- Demonstrate an understanding of the full range of earth resources exploited by modern society, inclusive of their formation, extraction and exploitation through brief summary essays included in each of the exams
- Explain the socio-economic underpinnings of the concept of natural resources, articulating how these connect to the material world to create the perception of natural endowments considered to be resources
- Identify the connections between resource-use and the environment, inclusive of concerns regarding overexploitation, pollution and climate change and demonstrate a knowledge of the means in which we as a society have attempted to address such concerns through changes in practice, use and law
- Demonstrate mastery of a particular resource-environment issue through the development of a research paper, exhibiting sufficient writing and research skills expected for an upper division undergraduate course

Grading Policy:

Final grades are rounded to nearest whole number

A	≥93	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	less than 60

Final grades will be computed as follows:

10 Participation Points (100pts or 17%)

- 10pts each participation with sign-in and full class attendance

5 Exercises (100pts or 17%)

- 20pts each for completion and submission through WebCampus, subject to grading

3 Exams (300pts or 50%)

- 100pts each exam

Group paper and presentation (100pts or 17%)

- 30pts First draft (all sections required)
- 50pts Second or final draft
- 20pts class presentation and attendance (both days)

You must attend lectures and not miss any of the participation or exam dates to qualify to earn those points. Any qualifying University excuse must be arranged with the instructor and be supported with a written medical, military, or university excuse. Please reach out ASAP and

discuss any concerns you have. In general, there is no extra credit given.

Lastly, no end of the semester grade requests will be granted.

Participation:

Ten participation days will happen throughout the semester. These will be unannounced and everyone in attendance that participates in the classroom discussion will be eligible to initial the sign-in sheet and earn these points.

Exercises:

Five brief exercises will be assigned throughout the semester. These will be made available either through WebCampus or directly in class. Recall that you must turn in all assigned exercises by the start of class on the day it is due (see the syllabus schedule). As this is an upper division course, I expect detailed and complete answers that are not only accurate but also insightful.

Exams:

Three exams will be given throughout the semester. These will cover the lecture materials and there will be study outlines provided that will direct you to the relevant lecture materials for each chapter/subject covered. The exams are mostly short-answers, allowing you to share with me your knowledge of the topic but the exam may also include T/F, multiple choice and vocabulary questions.

Semester Research Paper:

A final paper will take the place of a comprehensive final exam, allowing you to further research a topic of your choice. You must work together in small groups of 2-3 students. I am open to volunteer groups and will assist everyone else in forming their group. By the first exam, you must find a time to sit with me to discuss your paper ideas and receive my approval. Don't worry, I'll approve most anything, but I do want to talk things through. Following the second exam, a first draft of the paper is due and is worth 30% of the final paper grade. The final draft of the paper will then be worth 50% of the credit for the paper, giving you the opportunity to improve substantially upon your initial submission. Given the upper division credit for this course, **this paper needs to represent a substantial secondary-source research effort** that does more than just lightly cover the topical area selected. For this reason, additional informational materials will be provided, and the paper will be discussed during lecture times.

Lastly, there will be a brief amount of time provided for students to present their paper topics for the benefit of the rest of class using just three slides. Students need to attend both days and participate with the presentation to earn the remaining 20 points for the paper.

The following lecture schedule is tentative; adjustments to the schedule of topics and reading assignments may be made in accordance with the rate and progress in the classroom.

Class schedule with suggested readings in recommended textbook:

Week 1

Jan. 16 **Martin Luther King, Jr. Day** (No Class)

Jan. 18 Syllabus Review and Introduction and Origins of Resources

- Read textbook Preface/Part 1 Intro

Week 2

Jan. 23 Minerals: The Foundations of Society

- Read textbook Chapter 1

Jan. 25 Minerals: The Foundations of Society, continued

Week 3

Jan. 30 Plate Tectonics and the Origins of Resources

- Read textbook Chapter 2

Feb. 1 Plate Tectonics and the Origins of Resources, continued

- **Exercise 1 due by 11:59pm**

Week 4

Feb. 6 Earth Resources through History

- Read textbook Chapter 3

Feb. 8 Earth Resources through History, continued

Week 5

Feb. 13 Environmental Impacts of Resource Exploitation and Use

- Read textbook Chapter 4

Feb. 15 Environmental Impacts of Resource Exploitation and Use, continued

- **Exercise 2 due by 11:59pm**

Week 6

Feb. 20 **Presidents Day** (No Class)

Feb. 22 **Exam 1** (Chapters 1-4)

- **Deadline for paper topic** (-2pts per day late)

Week 7

Feb. 27 Energy from Fossil Fuels

- Read textbook Chapter 5

Mar. 1 Energy from Fossil Fuels, continued

Week 8

Mar. 6 Video: *The Spill / Deep Water Horizon*

- **Exercise 3 due by 11:59pm**

Mar. 8 Nuclear and Renewable Energy Sources

- Read textbook Chapter 6

Week 9

Mar. 13 **Spring Break** (No Class)

Mar. 15 **Spring Break** (No Class)

Week 10

Mar. 20 Nuclear and Renewable Energy Sources, continued

- **Exercise 4 due by 11:59pm**

Mar. 22 Abundant Metals

- Read textbook Chapter 7

Week 11

Mar. 27 Geochemically Scarce Metals

- Reach textbook Chapter 8

Mar. 29 Geochemically Scarce Metals, continued

- Carlin Deposits video clip

Week 12

Apr. 3 **Exam 2** (Chapters 5-8)

Apr. 5 Fertilizer and Chemical Minerals

- Read Chapter 9

Week 13

Apr. 10 Building Materials and Other Industrial Minerals

- Read Chapter 10

Apr. 12 Water Resources

- Read Chapter 11

Week 14

Apr. 17 Water Resources, continued

Apr. 19 Soil as a Resource

- Read textbook Chapter 12
- **First draft of semester research paper due in class (printed)**

Week 15

Apr. 24 Soil as a Resource, continued

- **Exercise 5 due by 11:59pm**

Apr. 26 **Exam 3** (Chapters 9-12)

Week 16

May 1 Presentations (attendance necessary both days for points)

May 3 Presentations (attendance necessary both days for points)

- **Final draft of semester research paper due**

Course Policies:

Public Health Directives

Face coverings are currently optional for all faculty and students in the classroom. Students must follow all active UNLV public health directives while enrolled in this class. UNLV public health directives are found at Health Requirements for Returning to Campus, <https://www.unlv.edu/coronavirus/health-requirements>. Students who do not comply with these directives may be asked to leave the classroom. Refusal to follow the guidelines may result in further disciplinary action according to the UNLV Student Conduct Code, https://www.unlv.edu/sites/default/files/page_files/27/StudentConduct-Code.pdf, including being administratively withdrawn from the course.

[Academic Policies](https://catalog.unlv.edu/content.php?catoid=29&navoid=7326): <https://catalog.unlv.edu/content.php?catoid=29&navoid=7326>

[Student Services & Activities](https://catalog.unlv.edu/content.php?catoid=29&navoid=7331): <https://catalog.unlv.edu/content.php?catoid=29&navoid=7331>

[University Policies](https://catalog.unlv.edu/content.php?catoid=29&navoid=7332): <https://catalog.unlv.edu/content.php?catoid=29&navoid=7332>

[University Community & Libraries](https://catalog.unlv.edu/content.php?catoid=29&navoid=7322):

<https://catalog.unlv.edu/content.php?catoid=29&navoid=7322>

The following are specific policies I have called out for your additional attention:

Attendance

This course is an in-person course and attendance for **lecture is necessary for your success**. While pdfs of the lectures are provided ahead of time, they are meant to assist you during lecture, so you don't have to copy all the definitions provided. You still need to **be attentive, participate and take your own notes**. Combined with readings, these notes are your primary source of materials when preparing for each exam.

Academic Misconduct

Academic integrity is a legitimate concern for every member of the University community. We all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility, and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy, and are encouraged to always take the ethical path whenever faced with choices. Students enrolling at UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's educational mission. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another person, from the Internet or any other source without proper citation of the source(s). See the Student Conduct Code, <https://www.unlv.edu/studentconduct/student-conduct>.

Auditing a Course

Auditing a course allows a student to continue attending the lectures and/or laboratories and discussion sessions associated with the course, but the student will not earn a grade for any component of the course. Students who audit a course receive the same educational experience as students taking the course for a grade, but will be excused from exams, assessments, and other evaluative measures that serve the primary purpose of assigning a grade.

Classroom Conduct

Students have a responsibility to conduct themselves in class and in the libraries in ways that do not interfere with the rights of other students to learn, or of instructors to teach. Use of devices such as cellular phones and pagers, or other potentially disruptive activities are only permitted with the prior explicit consent of the instructor.

Students are specifically prohibited to record classes without instructor authorization, including online/remote classes (either audio only, or video and audio). The instructor may rescind permission at any time during the class. If a student does not comply with established requirements or obstructs the functioning of the class, the instructor may initiate an administrative withdrawal of the student from the course.

Since the COVID-19 pandemic forced some instruction to be delivered remotely starting in Spring 2020, numerous students have asked instructors to record their synchronous classes, so that they can access them at their convenience. Instructors who agree to record their classes (audio only, or video and audio) should inform students in advance. Recorded lectures may not be broadly released to anyone but made available exclusively to those students enrolled in the class during the particular academic term. Recorded lectures must be stored securely, and are subject to the Nevada System of Higher Education's Records Retention Policy, meaning that the recordings can only be deleted 120 days after the end of class (i.e., after grades are posted). Once this requirement is met, the recordings should be deleted. Class recordings are protected from disclosure, as they are deemed part of an educational record under the Family Educational Rights and Privacy Act (FERPA).

Copyright

The University requires all members of the University Community to familiarize themselves with and follow copyright and fair use requirements. You are individually and solely responsible for violations of copyright and fair use laws. The University will neither protect nor defend you, nor assume any responsibility for student or employee violations of fair use laws. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional copyright policy information is available at <https://www.unlv.edu/provost/copyright>.

Disability Resource Center (DRC)

The UNLV Disability Resource Center (Campus Resource Center (CRC), across Harmon from the Lied Library, <https://www.unlv.edu/drc>, telephone 702-895-0866) provides resources for students with disabilities. Students who believe that they may need academic accommodations due to a permanent disability, temporary or permanent medical need, or academic support due to pregnancy are encouraged to contact the DRC as early as possible in the academic term. A Disabilities Specialist will discuss what options may be available to you. Students who are already registered with the DRC should request their accommodations online each semester, and make an appointment to discuss their accommodations with their instructors.

Diversity Statement

As an institution of higher learning, UNLV represents a rich diversity of human beings among its faculty, staff, and students, and is committed to cultivating a campus environment that values diversity, practices inclusion, and actively promotes equitable experiences and outcomes. Accordingly, the University supports understanding and appreciation of all members of its community, regardless of race, sex, age, color, national origin, ethnicity, creed, religion, disability, sexual orientation, gender, gender identity, marital status, pregnancy, genetic information, veteran status, or political affiliation. Please see University Statements and Compliance, <https://www.unlv.edu/about/statements-compliance>.

A successful learning experience requires mutual respect and trust between the students and the instructor. Accordingly, the instructor asks that students be willing to listen to one another's points of view, acknowledging that there may be disagreements, keep discussion and comments on topic, and use first person, positive language when expressing their perspectives.

Final Examinations and Study Week

The University requires that final exams given at the end of a course occur on the date and at the time specified in the Final Exam schedule. The general schedule is typically available at the start of the semester, and the classroom locations are available approximately one month before the end of the semester. See the Final Exam Schedule, <https://www.unlv.edu/registrar/calendars>.

Identity Verification in Online Courses

All UNLV students must use their Campus-issued ACE ID and password to log in to WebCampus-Canvas. UNLV students enrolled in online or hybrid courses are expected to read and adhere to the Student Academic Misconduct Policy, <https://www.unlv.edu/studentconduct/misconduct/policy>, which states that "acting or attempting to act as a substitute for another, or using or attempting to use a substitute, in any academic evaluation or assignment" is a form of academic misconduct. Intentionally sharing

ACE login credentials with another person may be considered an attempt to use a substitute, and could result in investigation and sanctions, as outlined in the Student Academic Misconduct Policy. UNLV students enrolled in online courses are also expected to read and adhere to the Acceptable Use of Computing and Information Technology Resources Policy, <https://www.it.unlv.edu/policies/acceptable-use-computing-and-information-technology-resources-policy>, which prohibits sharing university accounts with other persons without authorization. To the greatest extent possible, all graded assignments and assessments in UNLV online courses should be hosted in WebCampus-Canvas or another UNLV-managed platform that requires ACE login credentials for access.

Incomplete Grades

The grade of “I” (Incomplete) may be granted when a student has satisfactorily completed three-fourths of course work for that semester/session, but cannot complete the last part of the course for reason(s) beyond the student’s control and acceptable to the instructor, and the instructor believes that the student can finish the course without repeating it. For undergraduate courses, the incomplete work must be made up before the end of the following regular semester. Graduate students receiving “I” grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the period indicated, a grade of “F” will be recorded, and the student’s GPA will be adjusted accordingly. Students who are fulfilling an Incomplete grade do not register for the course, but make individual arrangements with the instructor who assigned the “I” grade.

Library Resources

Librarians are available to consult with students on research needs, including developing research topics, finding information, and evaluating sources. To make an appointment with a subject expert for this class, please visit the Libraries’ Research Consultation website, <https://guides.library.unlv.edu/appointments/librarian>. You can also ask the library staff questions via chat and text message at <https://ask.library.unlv.edu/>.

Missed Course Work

Any student missing class, quizzes, examinations, or any other class or laboratory work because of observance of religious holidays will be given an opportunity during that semester to make up the missed work. The make-up opportunity will apply to the religious holiday absence only. It is the responsibility of the student to notify the instructor within the first 14 calendar days of the course for Fall and Spring courses (except for modular courses), or within the first 7 calendar days of the course for Summer and modular courses, of their intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit the Missed Classwork policy, under Registration Policies, on the Academic Policies webpage, <https://catalog.unlv.edu/content.php?catoid=39&navoid=10666>.

In accordance with the policy approved by the Faculty Senate regarding missed class time and assignments, students who represent UNLV in any official extracurricular activity will also have the opportunity to make up assignments, provided that the student submits official written notification to the instructor no less than one week prior to the missed class(es).

The spirit and intent of the policy for missed classwork is to offer fair and equitable assessment opportunities to all students, including those representing the University in extracurricular activities. Instructors should consider, for example, that in courses which offer a “Drop one” option for the lowest assignment, quiz, or exam, assigning the student a grade of zero for an excused absence for extracurricular activity is both contrary to the intent of the Faculty Senate’s policy, and an infringement on the student’s right to complete all work for the course.

This policy will not apply in the event that completing the assignment or administering the examination at an alternate time would impose an undue hardship on the instructor or the University that could be reasonably avoided. There should be a good faith effort by both the instructor and the student to agree to a reasonable resolution. When disagreements regarding this policy arise, decisions can be appealed to the Department Chair/School Director, College/School Dean, and/or the Faculty Senate Academic Standards Committee.

For purposes of definition, extracurricular activities may include, but are not limited to academic recruitment activities, competitive intercollegiate athletics, fine arts activities, liberal arts competitions, science and engineering competitions, and any other event or activity sanctioned by a College/School Dean, and/or by the Executive Vice President and Provost.

Rebelmail

Rebelmail is UNLV’s official email system for students and by University policy, instructors and staff should only send emails to students’ Rebelmail accounts. Rebelmail is one of the primary ways in which students receive official University communications, information about deadlines, major Campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the University. Sending emails within WebCampus-Canvas is also acceptable.

Title IX

UNLV is committed to providing an environment free of all forms of unlawful discrimination including sexual and gender-based discrimination, harassment, and violence like sexual assault, intimate partner violence, and stalking. If you, or someone you know, has experienced or is experiencing these types of behaviors, know that you are not alone. Resources and support are available. To learn more or to report an incident, please visit the Office of Equal Employment and Title IX website at <https://www.unlv.edu/compliance>. Please be aware that as an instructor, I am not a confidential resource, and I will need to report incidents of sexual

misconduct to UNLV's Title IX Coordinator. You can also report concerns directly using the online reporting form, at https://cm.maxient.com/reportingform.php?UnivofNevadaLasVegas&layout_id=18, or via email at titleixcoordinator@unlv.edu or 702-895-4055. For confidential support in matters of sexual violence, relationship/family violence, or stalking, contact the Care Center at <https://www.unlv.edu/carecenter> or 702-895- 0602.

Tutoring and Coaching

The Academic Success Center (ASC), at the Claude I. Howard Building, provides tutoring, academic success coaching, and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, please visit the ASC website, <https://www.unlv.edu/asc>, or call 702-895-3177. The ASC is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of SSC A, Room 254. Drop-in tutoring is located on the second floor of the Lied Library, and on the second floor of the College of Engineering building (TBE A 207).

UNLV Writing Center

One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, <https://writingcenter.unlv.edu/>, located in the Central Desert Complex, Building 3, Room 301 (CDC 3–301). Walk-in consultations are sometimes available, but students with appointments receive priority assistance. Students may make appointments in person or by calling the Center, telephone 702-895-3908. Students are requested to bring to their appointments their Rebel ID Card, a copy of the instructions for their assignment, and two copies of any writing they have completed on their assignment.

988 FREE 24/7 SUICIDE & CRISIS LIFELINE

In addition to campus resources such as the Counseling and Psychological Services (CAPS) website at <https://www.unlv.edu/caps>, visiting the YOU@UNLV website at <https://you.unlv.edu/>, and Early Alert (for graduate students, at <https://www.unlv.edu/graduatecollege/academy/early-alert>), you may now call or text 988 or chat at 988lifeline.org if you or someone you know is in crisis and in need of support.