

Monitoring regional sustainability

ESCI 4320 /ESCI 5320

Fall 2023

Tuesdays 12-1:20; ZOOM (unless stated otherwise)

Thursday 12-1:20; LART 305

1. Instructors:

Dr. Vanessa Lougheed (she/her): vlougheed@utep.edu

Dr. Lixin Jin (she/her): ljin2@utep.edu

- In contacting us, please put the course code (ESCI 4320/5320) in the email subject line

2. Class Format

This class will have a hybrid format. Unless you are told otherwise, class will be on ZOOM on Tuesdays and in person on Thursdays. For the first week of class, we will meet in person on Tuesday. You will be required to cover some online material on your own time. Both in-person and ZOOM attendance will be taken and count towards your grade.

3. Office Hours:

There will be time for office hours during class time. If additional time is needed, a meeting can be scheduled with the instructors.

For general questions, you can also post on Q/A discussion board in Blackboard, and we will respond daily.

3. Goals:

In this senior-level & graduate-level course multiple projects are designed to understand and solve local and regional environmental problems that are water-related. Through hands-on experiences, and guest lectures, students will analyze their own data as well as larger, more complex datasets, and understand the importance of water resources in societal stability.

The objectives are to:

1. Increase awareness of water-related issues;
2. Provide experiential learning and train our students to become future water professionals;
3. Encourage team work and group discussion; and
4. Improve analytical, writing and oral skills.

4. Required statistical software:

- MS Excel
- Instructions will be provided on how to install and download this FREE software:
 - R & R-studio
 - VENSIM modeling software

Technology requirements:

- A computer or laptop,
- Stable, consistent internet,
- Blackboard,
- Your UTEP email account.

Course content will be delivered via the Internet through the Blackboard learning management system (LMS). Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Mozilla Firefox and Google Chrome are the most supported browsers for Blackboard; other browsers may cause complications with the LMS. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

If you encounter technical difficulties beyond your scope of troubleshooting, please contact the [Help Desk](#) as they are trained specifically in assisting with technological needs of students.

5. Required Textbook: NONE**6. Course expectations:**

- Course materials will be posted on Blackboard
- Students are expected to attend both virtual and in-person classes
- Content is provided in modules that are released weekly or biweekly.
- We expect you to check your email regularly for course announcements. We will be using the announcement system in Blackboard, so make sure you are checking the email linked to that system.

7. Course grading and assignments:**Grades:**

	%
Lab exercises (5 x 8% each)	40
Attendance	10
Pop Quizzes	10
Rivers in Crisis (RIC) (group assignments. Presentation)	40

Lab exercises (5 assignments worth 8% each).

Assignments will test your ability to analyze and interpret environmental datasets on water quantity and quality. You will be expected to analyze the data as instructed using Microsoft Excel, Microsoft Word, "R-studio" or VENSIM. You are encouraged to get help for these assignments from the instructors during their office hours.

Pop Quizzes

Pop quizzes will occur on occasion and will examine your grasp of concepts and cover reading materials, journal articles, and lecture materials (virtual and in person). Pop quizzes will occur during class time; students who don't attend class will get a grade of zero (0) for the quiz.

Rivers in Crisis (semester long project, final presentation and discussion, 40%)
Depending on final enrollment, undergrads will work in groups; graduate students will work individually.

This project will explore a specific thematic topic that is currently challenging the quality and quantity of large rivers in the world. The theme and members of each group will be assigned by the instructors. You will have 4 smaller assignments due throughout the semester, followed by the final presentation. More details will be provided within the first couple of weeks of class. You will have the opportunity to evaluate your team members contribution to the effort.

Assignment & approx. date	4320	5320
Assg 1: Group contract & responsibilities	3	NA
Assg 2: Journal articles	5	5
Assg 3: Journal articles	5	5
Assg 4: Concept map	5	5
Final presentation	17	15
Written component	NA	10
Peer evaluation	5	NA

8. Suggested biweekly timeline:

In most cases, you will have modules that cover 2 weeks of information. Each module will be available on Blackboard on Sunday afternoon. You must complete pre-lecture material BEFORE class Thursday, as it will sometime be the topic of pop quizzes. **You are required to check Blackboard weekly for specific due dates that may differ from these general guidelines.**

Proposed schedule *subject to change* RIC=River in Crisis

	Assignments	Lab	RIC
Module 1 <i>Week 1 (8/29)</i>	Introduction to global water cycles and water quantity Introduction to class		
<i>Week 2 (9/5)</i>	Introduction to Excel (incl. regressions) Introduction to RIC		
Module 2 <i>Week 1 (9/12)</i>	Ex. 1: Effect of climate on stream discharge	1a	
<i>Week 2 (9/19)</i>	RIC contract	1b	RIC-1
Module 3 <i>(9/26)</i>	Ex.2: Introduction to R How to find a journal article	2	
Module 4 <i>Week 1 (10/3)</i>	Ex. 3: Watershed Modeling Guest (10/3): Scott Reinert, EPWU	3a	
<i>Week 2 (10/10)</i>	RIC: journal articles I (on ZOOM)	3b	RIC-2
Module 5 <i>Week 1 (10/17)</i>	Ex. 4: Flood hazard evaluation, NADP precipitation data	4a	
<i>Week 2 (10/24)</i>	RIC: journal articles II (on ZOOM) Guest (Oct 24): Gisela Dagnino, EPWU	4b	RIC-3
Module 6 <i>Week 1 (10/31)</i>	Ex. 5: Natural versus managed hydrographs	5a	
<i>Week 2 (11/7)</i>	RIC Concept Map due Guest (11/7): Jerry Melendez, EBID	5b	RIC-4
Module 7 <i>Week 1 (11/14)</i>	RIC group work ESCI 4398 presentations		
<i>Week 2 (11/21)</i>	ESCI 4398 presentations No class Thursday – Thanksgiving		
Module 8 <i>Week 1 (11/28)</i>	Final RIC presentations – Part 1		Final RIC
<i>Week 2 (12/5)</i>	Final RIC presentations –Part 2		Final RIC

10. Additional Policies:

COVID-19 PRECAUTION STATEMENT

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.

DROP DATE. The semester's drop deadline is Nov 3, 2023. The College of Science will remain aligned with the University and not approve any drop requests after that date.

ONLINE ASSIGNMENT SUBMISSION. All assignments will be due Fridays by 5pm and must be uploaded on Blackboard.

POLICY ON MAKE-UP EXAMINATIONS or ASSIGNMENTS: No make-up quizzes, exams or assignments will be given for reasons other than illness (doctor's note required), absence with the instructor's prior approval, or when a student is on official University business (documentation required). Make-up exams and assignments will be scheduled at the Instructor's convenience.

All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to one month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

POLICY ON ACADEMIC HONESTY:

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the [Office of Student Conduct and Conflict Resolution \(OSCCR\)](#) for possible disciplinary action. To learn more [HOOP: Student Conduct and Discipline](#).

ACCOMMODATIONS POLICY

The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#).

MILITARY STATEMENT: If you are a military student with the potential of being called into military service and/or training during the course of the semester you are encouraged to contact the instructor regarding these matters.

Student Resources:

UTEP provides a variety of student services and support:

- [UTEP Library](#): Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- [Help Desk](#): Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.
- [University Writing Center \(UWC\)](#): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- [History Tutoring Center \(HTC\)](#): Receive assistance with writing history papers, get help from a tutor and explore other history resources.
- [Military Student Success Center](#): UTEP welcomes military-affiliated students to its degree programs, and the Military Student Success Center and its dedicated staff (many of whom are veterans and students themselves) are here to help personnel in any branch of service to reach their educational goals.
- [RefWorks](#): A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.