



COURSE OUTLINE WINTER 2023

	Date	Initials
Prepared by Instructor	2022-Dec-22	AM
Approved by Head	08-Jan-23	A.S.

1. Calendar Information

ENCH 698 Reservoir Characterization for Field Development

A team-based, integrated reservoir description experience working with geophysical, geological, petrophysical, and engineering data to produce a field development plan.

Course Hours: 6 units; H(3-2)

Academic Credit: 6

Calendar Reference: <https://www.ucalgary.ca/pubs/calendar/current/engineering.html>

2. Learning Outcomes

At the end of this course, you will be able to:

- 1 Work with an open-ended design problem.
- 2 Integrate knowledge from other courses in RSCH program.
- 3 Collect, analyze, appraise, and reconcile real reservoir data.
- 4 History match production data with a reservoir simulator and use the calibrated reservoir model to evaluate development scenarios.
- 5 Perform economics evaluation and execute project management.
- 6 Work effectively as a team, learn on your own and from other team members.
- 7 Prepare and give presentations summarizing team progress.

3. Timetable

Section	Day(s) of the Week	Time	Location
L01	MW	18:30-21:20	EEEL 127

4. Course Instructors

Course Coordinator

Section	First Name	Family Name	Phone	Office	Email
	An	Mai		END 210	an.mai@ucalgary.ca

Other Instructors

Teaching Assistants

Section	First Name	Family Name	Phone	Office	Email
	Thomas	Jerome			thomas.jerome@ucalgary.ca
	Zhenqian	Xue			zhenqian.xue@ucalgary.ca

5. Assessments

Weekly Presentations (10) - Weekly presentations, scheduled at a time decided upon by each team, will be used as the basis of the 'Weekly Presentations' component of the grade. A rubric will be supplied to the teams the week before their first weekly presentation so that they understand the components they will be graded on.

Peer Evaluations - Students are provided the opportunities to grade the performance of their team mates (and themselves) which will constitute 10% of their grade. A Peer Evaluation Form will be provided for this purpose, which will be filled out and returned to the instructor and TAs by the middle of February and the final week of classes.

Team Contribution and Reflection - Students are expected to submit a written summary detailing their specific contributions to the project. In addition to that, they are to summarize what they have learned through the course, including the technical and non-technical aspects. The summary should be sent to the instructor, TAs, and members of their team by the end of term.

Final Exam - The Final Exam will be a closed book exam and in written format. It will be scheduled by Registrar during exam period (Apr 15 - 26). The exam will have questions about the student's project, as well as the various technical areas that have been conducted and presented by the team.

*Students are expected to fulfill ALL assessments listed above. In the event that a student could not fulfill any of the assessments, the student must notify the instructor immediately. If possible, an alternative arrangement will be made to accommodate.

6. Use of Calculators in Examinations

There is no calculator required for the examination.

7. Final Grade Determination

The final grade in this course will be based on the following components:

Component	Learning Outcome(s) Evaluated	Weight
Weekly Presentations	1-7	50%
Final Exam	1-6	30%
Team Contribution and Reflection	6	10%
Peer Evaluation	6	10%

Total:

100%

Notes:

- A student must pass the final exam component to pass the course as a whole.
- Conversion from a score out of 100 to a letter grade will be done using the conversion chart shown below.

Letter Grade	Total Mark (T)
A+	$T \geq 95.0\%$
A	$89.0\% \leq T < 95.0\%$
A-	$84.0\% \leq T < 89.0\%$
B+	$78.0\% \leq T < 84.0\%$
B	$73.0\% \leq T < 78.0\%$
B-	$68.0\% \leq T < 73.0\%$
C+	$64.0\% \leq T < 68.0\%$
C	$60.0\% \leq T < 64.0\%$
C-	$56.0\% \leq T < 60.0\%$
D+	$53.0\% \leq T < 56.0\%$
D	$50.0\% \leq T < 53.0\%$
F	$T < 50.0\%$

8. Textbook

There is no textbook required for this course.

The following textbook(s) is recommended for this course:

9. University of Calgary Policies and Supports

SSE ADVISING AND POLICIES

All Schulich School of Engineering students have access to a D2L site titled "Engineering Student Centre". Students have a responsibility to familiarize themselves with the policies available on this site.

ACADEMIC MISCONDUCT

Academic Misconduct refers to student behavior which compromises proper assessment of a student's academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar. The SSE Academic Misconduct Operating Standard can be found on the Engineering Student Center D2L site.

For more information on the University of Calgary Student Academic Misconduct Policy and Procedure please visit:

<https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Academic-Misconduct-Procedure.pdf>

Additional information is available on the Academic Integrity Website at <https://ucalgary.ca/student-services/student-success/learning/academic-integrity>.

ACADEMIC ACCOMODATION

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The Student Accommodations policy is available at <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation based on disability or medical concerns should contact Student Accessibility Services (SAS) in accordance with the Procedure for Accommodations for Students with Disabilities (<https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>). SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a degree based on a Protected Ground other than Disability, should communicate this need by submitting a SSE Request for Academic Accommodation Form (ESC D2L - Forms) to the Associate Head (Undergraduate Studies) within 10 business days prior to the class, test, exam, or assignment at issue.

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Acceptable-Use-of-Material-Protected-by-Copyright-Policy.pdf>) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Non-Academic-Misconduct-Policy.pdf>.

MEDIA RECORDING (if applicable)

Please refer to the following statement on media recording of students:

https://elearn.ucalgary.ca/wp-content/uploads/2020/05/Media-Recording-in-Learning-Environments-OSP_FINAL.pdf

**Media recording for lesson capture*

The instructor may use media recordings to capture the delivery of a lecture. These recordings are intended to be used for lecture capture only and will not be used for any other purpose. Although the recording device will be fixed on the Instructor, in the event that incidental student participation is recorded, the instructor will ensure that any identifiable content (video or audio) is masked, or will seek consent to include the identifiable student content to making the content available on University approved platforms.

**Media recording for self-assessment of teaching practices*

The instructor may use media recordings as a tool for self-assessment of their teaching practices. Although the recording device will be fixed on the instructor, it is possible that student participation in the course may be inadvertently captured. These recordings will be used for instructor self-assessment only and will not be used for any other purpose.

**Media recording for the assessment of student learning*

The instructor may use media recordings as part of the assessment of students. This may include but is not limited to classroom discussions, presentations, clinical practice, or skills testing that occur during the course. These recordings will be used for student assessment purposes only and will not be shared or used for any other purpose.

SEXUAL VIOLENCE POLICY

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's sexual violence policy guides us in how we respond to incidents of sexual violence, including supports available to those who have experienced or witnessed sexual violence, or those who are alleged to have committed sexual violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Sexual-and-Gender-Based-Violence-Policy.pdf>

OTHER IMPORTANT INFORMATION

Please visit the Registrar's website at: <https://www.ucalgary.ca/registrar/registration/course-outlines>

for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk

10. Additional Course Information

Course Format and Scheduling

This course is being offered in-person for W2023. Students will be assigned into teams, with each team consisting of a number of geoscientists and engineers. The team will decide on the weekly meeting time that works for all, including the instructor and the TAs. Once the meeting times are set, all team members are required to attend the weekly meeting in EEEL 127. At each weekly meeting, which will be scheduled for 1.5 hours, a team-representative will present on the progress of the team for the week, and the team will be asked questions and given feedback and advice by the instructor and the TAs.

Expectations for Attendance and Engagement in Sessions

Students are expected to attend the weekly presentations described above. Students are expected to communicate in a professional and respectful manner at all times.

Guidelines for Completing and Submitting Coursework

Weekly presentations must be sent to the instructor and TAs by 4:30 pm on the day before the scheduled presentation time.