

UNDERGRADUATE COUNCIL
Request for Change(s)

Originating unit requesting change _____ Dept of Geological Sciences

Type of Change requested:

- | | | | | | |
|-------------------------------------|--------------------|-------------------------------------|------------------------|--------------------------|----------------------|
| <input type="checkbox"/> | Course number(s) | <input checked="" type="checkbox"/> | Course prerequisite(s) | <input type="checkbox"/> | Program title |
| <input checked="" type="checkbox"/> | Course title | <input type="checkbox"/> | Drop course(s) | <input type="checkbox"/> | Program description |
| <input checked="" type="checkbox"/> | Course description | <input type="checkbox"/> | Drop program(s) | <input type="checkbox"/> | Program requirements |

Semester and year change(s) take effect: _____ Fall 2021

Appropriate computer abbreviation if
course title is more than 30 spaces: _____

Briefly summarize the change requested:

(1) change the title of GEOL 50563 to Energy and Natural Resources (formerly From Prospect to Production) (2) change course description to more accurately reflect the course material (3) change course prerequisite to "Understanding the Earth"

Catalog copy

Present catalog copy (paste-up from
catalog is acceptable.

Proposed change(s). (Include exact catalog
copy as desired. Underline changes)

Present catalog copy:

GEOL 50563 From Prospect to Production

Prerequisite: Advanced standing in geology or permission of instructor. A broad overview of the geologic, engineering and business sides of the oil and gas industry. The course will acquaint students with all the steps in the production of oil and gas from developing a prospect to delivering a product: how geologists decide where to drill, how mineral rights are acquired, how contracts are structured, and how financing is obtained for oil and gas deals. Includes the study of drilling and completion operations and the technology required to produce oil and gas. Students will also be acquainted with the legal, regulatory and environmental issues encountered in drilling for oil and gas.

Proposed changes to catalog copy (changes are underlined):

GEOL 50563 Energy and Natural Resources

Prerequisite: GEOL 10113 or equivalent. A broad overview of the natural resources utilized for energy, and the geologic, engineering and business sides of the energy industry. The course will acquaint students with all the steps in the production of oil and gas from developing a prospect to delivering a product, including how geologists decide where to drill, the study of drilling and completion operations, the technology required to produce oil and gas, and carbon sequestration. Students will also be acquainted with the natural resources and environmental issues associated with the generation of electricity, including coal, geothermal, biomass, uranium, tidal, hydroelectricity, and the rare earth elements required for renewable energy.

1. What is the justification for the change(s) requested?
After the course changed instructors several years ago (from an adjunct to PPP Richard Denne), the scope of the course has changed to include energy resources beyond oil and gas, including renewable energy sources. The new title and description more accurately reflect the course as it is currently being taught. The current prerequisite for the course is somewhat nebulous, so the proposal here requests that it be changed to the introductory geology course GEOL 10113 or an equivalent course.
2. If applicable, explain how the change(s) will affect the current program outcomes and assessment mechanisms.
NA
3. **Faculty Resources:** How will the unit provide faculty support for this change and any other impact this change may have on other current departmental listings.
These changes will have no impact on other departmental listings or faculty support
4. **Educational Resources:** Will this change require additional resources not currently available (e.g. space, equipment, library, other)?
If yes, list additional resources needed. ☐ YES
☒ NO
5. If this change affects other units of the University, include a statement signed by the chairperson(s) of the affected unit(s).
NA
6. If cross-listed, provide evidence of approval by all curriculum committees appropriate to both the originating and cross-listed units.



Approval signature of chairperson of originating unit

GEOL 50563 - 080 Energy and Natural Resources - Syllabus

Instructor Name: Dr. Richard Denne

Number of Credits: 3

Class Location: SWR LH3

Class Meeting Day & Time: Tues 6:30-8:50 p.m

Office: RJH 105D

Office Hours: T-TR 11-12:00 or by appointment.

Telephone: 817-257-4423

Email: r.denne@tcu.edu

Response Time: same day on weekdays; following Monday on weekends

Final Exam Date & Other Important Dates

Final Exam: Tuesday, December 14, 8:00-10:00 p.m.

Rescheduling of Finals Policy: If the final examination schedule requires you to take more than two final examinations in a 24-hour period, you can arrange with the instructor to take the exam at another time.

Midterm Exam: Tuesday, October 12, 6:30-9:00 p.m.

Last Day to Drop: October TBD

Last Day to Declare P/NC: October TBD

Special Classes: there will be no special class meetings, but there may be an optional field trip outside of class

Course Description

This course is a broad overview of the natural resources utilized for energy, and the geologic, engineering and business sides of the energy industry. The course will acquaint students with all the steps in the production of oil and gas from developing a prospect to delivering a product, including how geologists decide where to drill, the study of drilling and completion operations, the technology required to produce oil and gas, and carbon sequestration. Students will also be acquainted with the natural resources and environmental issues associated with the generation of electricity, including coal, geothermal, biomass, uranium, tidal, hydroelectricity, and the rare earth elements required for renewable energy.

Learning Outcomes

1. Explain the basics of petroleum geology.
2. Describe how a well is drilled, completed, and produced, and the role of carbon sequestration in enhanced oil recovery.
3. Summarize the geology and extraction methods for coal, uranium, and rare earth elements.
4. Explain how natural resources are used to generate electricity.

Prerequisites / Program or Major Connections

Prerequisites: GEOL 10113 or an equivalent course.

Program connections: This course fulfills a requirement for an upper level course in the ENTM minor. It is designed to provide a broad background for students interested in working in the energy industry or affiliated industries (e.g., finance).

Required Texts / Materials

- Assigned weekly readings (modules) posted on TCU Online

Additional / Supplementary Resources

- Articles from journals and various other sources may be uploaded to TCU Online to supplement the lectures.
- During-class assignments will be uploaded to TCU Online for those students who are online

Teaching Philosophy

I advocate the use of testing and projects as an integral part of the teaching process and as a means to assess how well I am teaching the subject, and not solely as the process of determining a student's grade. My philosophy on testing is that tests should be used to develop a student's problem-solving skills and evaluate their grasp of the fundamentals, and not their ability to memorize facts. Therefore, my tests are based on solving several multi-faceted problems that incorporate what was covered by both the classroom lectures and the readings. To reinforce the problem-solving aspect of testing, I am a proponent of open-note tests.

Instructional Methods

- The material online is similar to what one would find in a text book, and is required reading for the class.
 - After each module or sub-module you will have to pass an online quiz about the material covered by the module.
 - You cannot move forward until you have scored >70% on the quiz (you have an unlimited number of attempts).
 - I strongly encourage you to complete the assigned section before each class meeting.
- The weekly lecture will be used to reinforce what was covered by the reading, particularly those topics that may be more difficult to understand.

- On occasion there will be in-class exercises related to the more technical aspects of the topic. These exercises are part of the participation grade.
- Most class meeting will include one or more guest speakers from industry. Some guest speakers may not be using PowerPoint for their presentations, so it is vital that you are present and taking notes during each lecture. These speakers will not be recorded, so the only way to hear them is to attend the lecture.
 - There will be pop quizzes and exam questions about the material discussed by the guest speakers.

Course Policies and Requirements

Assignments

The scores for each quiz and assignment will be posted with TCU Online after they have been graded. The scores can be found within Grades under the Assessment tab. More information about each of the assignments can be found within the TCU Online Module noted below.

Graduate students enrolled in the class will be expected to give a short presentation on one of the class topics. This presentation will be included within their participation grade.

Outcome(s)	TCU Online Module	Assignments	Due Dates
1,2	Introduction The Oil and Gas Industry	Reading assignment: Read all sections in the Introduction and The Oil and Gas Industry modules Online Quiz 1	8/24
1	Hydrocarbons Geology of a Prospect	Reading assignment: Read all sections in the Hydrocarbon module and the sections in the What is a Prospect and Sedimentary Geology sub-modules of the Geology of a Prospect module Online Quizzes 2,3,4	8/31
1	Geology of a Prospect	Reading assignment: Read the sections in the Subsurface Geologic Tools and Methods and Conventional Plays sub-modules of the Geology of a Prospect module Online Quizzes 5,6 In-class Exercise: Correlation and Mapping	9/7
1	Geology of a Prospect	Reading assignment: Read the sections in the Unconventional Plays sub-module of the Geology of a Prospect module	9/14

Outcome(s)	TCU Online Module	Assignments	Due Dates
		Online Quizzes 7	
1,2	Geology of a Prospect	Reading assignment: Read the sections in the Assessing the Prospect and Reserves and Economics sub-modules of the Geology of a Prospect module Online Quizzes 8,9,10 In-class Exercise: Decline Curve Analysis	9/21
2	Drilling	Reading assignment: Read the sections in the Drilling the Well sub-module of the Drilling module Online Quizzes 11,12 In-class exercise: Directional drilling	9/28
2	Completions	Reading assignment: Read all sections in the Completions module Online Quizzes 13,14 In-class exercise: Frac fluids	10/5
1,2		Midterm Exam (during class)	10/12
2	Production	Reading assignment: Read all sections in the Production module Online Quizzes 15,16	10/19
3	Geothermal	Reading assignment: Read all material in the Geothermal module Online Quiz 17	10/26
3	Coal	Reading assignment: Read all material in the Coal module Online Quiz 18	11/2
3	Uranium & Rare Earth Elements	Reading assignment: Read all material in the Uranium & Rare Earth Elements module Online Quiz 19	11/9
4	Tidal and Hydroelectricity	Reading assignment: Read all material in the Tidal and Hydroelectricity module Online Quiz 20	11/16

Outcome(s)	TCU Online Module	Assignments	Due Dates
4	Biomass	Reading assignment: Read all material in the Biomass module Online Quiz 21	11/30
1,2,3,4		Final Exam	12/14

Grading

Final Grade Elements / Grade Breakdown:

Outcome(s)	Assignments, Exams/Quizzes, etc.	Percentage
1,2,3,4	Online and in-class quizzes	45%
1,2,3,4	Attendance, Participation, Exercises, and Grad-student presentation	15%
1,2	Mid-term Exam	15%
1, 2, 3, 4	Final Exam	25%

Grading Scales

Undergraduate scale:

Grade	Score
A	90–100
B	80–89.99
C	70–79.99
D	60–69.99
F	0–59.99

Graduate scale:

Grade	Score
A	90–100

Grade	Score
B	80–89.99
C	70–79.99
F	0–69.99

Late Work

2% will be deducted from your grade for EACH DAY that an assignment is late, unless an agreement has been made with the instructor.

Grading Concerns

All questions should be emailed to the instructor within one week of the grade being posted.

Participation / Engagement (Attendance)

- The university attendance policy states that regular and punctual class attendance is essential and that no assigned work is excused because of absence, no matter what the cause.
- Attendance at all classes is highly recommended. Attendance will be taken every week (see rubric below).
- Participation is not just showing up; the more engaged you are in the classroom the more successful you will be. Every student will be expected to provide one question for each of the speakers (see rubric below).
- Periodically exercises will be completed in-class (see rubric below).
- Attendance, participation, and in-class exercises are 15% of the final grade, as shown in the rubric below.

Category	Attendance	Participation	In-class Assignments
Rubric	1 point for attending a class	1 point for engaging with a guest speaker	2 points for completing an in-class assignment
Total Points	14	TBD	14

Class Norms & Netiquette

All members of the class are expected to follow rules of common courtesy in all email messages, discussions, and chats. If I deem any of them to be inappropriate or offensive, I will forward the message to the Chair of the department and appropriate action will be taken, not

excluding expulsion from the course. The same rules apply online as they do in person. Be respectful of other students. Foul discourse will not be tolerated. Please take a moment and read the [basic information about netiquette](http://www.albion.com/netiquette/) (<http://www.albion.com/netiquette/>).

Participating in the virtual realm, including social media sites and shared-access sites sometimes used for educational collaborations, should be done with honor and integrity. Please [review TCU's guidelines on electronic communications](https://tcu.codes/policies/network-and-computing-policy/e-mail-electronic-communications-social-networks/) (email, text messages, social networks, etc.) from the Student Handbook. (<https://tcu.codes/policies/network-and-computing-policy/e-mail-electronic-communications-social-networks/>)

Technology Policies

Email

Only the official TCU student email address will be used for all course notification. It is your responsibility to check your TCU email on a regular basis.

Course Materials

TCU students are prohibited from sharing any portion of course materials (including videos, PowerPoint slides, assignments, or notes) with others, including on social media, without written permission by the course instructor. Accessing, copying, transporting (to another person or location), modifying, or destroying programs, records, or data belonging to TCU or another user without authorization, whether such data is in transit or storage, is prohibited. The full policy can be found at: <https://security.tcu.edu/polproc/usage-policy/>.

Violating this policy is considered a violation of Section 3.2.15 of the Student Code of Conduct (this policy may be found in the Student Handbook at <https://tcu.codes/code/index/>), **and may also constitute Academic Misconduct or Disruptive Classroom Behavior** (these policies may be found in the undergraduate catalog at <https://tcu.smartcatalogiq.com/current/Undergraduate-Catalog/Student-Policies/Academic-Conduct-Policy-Details>). TCU encourages student debate and discourse; accordingly, TCU generally interprets and applies its policies, including the policies referenced above, consistent with the values of free expression and First Amendment principles.

Technology in the classroom

You are welcome to take notes on your computer or tablet if that works best for you.

Academic Misconduct

Academic Misconduct (Sec. 3.4 from the [TCU Code of Student Conduct](#)): Any act that violates the academic integrity of the institution is considered academic misconduct. The procedures used to resolve suspected acts of academic misconduct are available in the offices of Academic Deans and the Office of Campus Life and are also listed in detail in the [Undergraduate Catalog](#) and the [Graduate Catalog](#). Specific examples include, but are not limited to:

- **Cheating:** Copying from another student's test paper, laboratory report, other report, or computer files and listings; using, during any academic exercise, material and/or devices

not authorized by the person in charge of the test; collaborating with or seeking aid from another student during a test or laboratory without permission; knowingly using, buying, selling, stealing, transporting, or soliciting in its entirety or in part, the contents of a test or other assignment unauthorized for release; substituting for another student or permitting another student to substitute for oneself.

- **Plagiarism:** The appropriation, theft, purchase or obtaining by any means another's work, and the unacknowledged submission or incorporation of that work as one's own offered for credit. Appropriation includes the quoting or paraphrasing of another's work without giving credit therefore.
- **Collusion:** The unauthorized collaboration with another in preparing work offered for credit.
- **Abuse of resource materials:** Mutilating, destroying, concealing, or stealing such material.
- **Computer misuse:** Unauthorized or illegal use of computer software or hardware through the TCU Computer Center or through any programs, terminals, or freestanding computers owned, leased or operated by TCU or any of its academic units for the purpose of affecting the academic standing of a student.
- **Fabrication and falsification:** Unauthorized alteration or invention of any information or citation in an academic exercise. Falsification involves altering information for use in any academic exercise. Fabrication involves inventing or counterfeiting information for use in any academic exercise.
- **Multiple submission:** The submission by the same individual of substantial portions of the same academic work (including oral reports) for credit more than once in the same or another class without authorization.
- **Complicity in academic misconduct:** Helping another to commit an act of academic misconduct.
- **Bearing false witness:** Knowingly and falsely accusing another student of academic misconduct.

TCU Online: Our Learning Management System

Getting Started with TCU Online

Technical Requirements: Check your computer is ready by looking at the [specifications list](https://community.brightspace.com/s/article/Brightspace-Platform-Requirements). (<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>)

Log In: (using your TCU Network Credentials)

1. Access via my.tcu.edu > Student Quick Links > TCU Online
2. Login at the following [website](http://d2l.tcu.edu) (<http://d2l.tcu.edu>) my.tcu.edu

*For information about logging into TCU Online, view these [instructions](http://tcuonline.tcu.edu/kb/how-do-i-log-in/). (<http://tcuonline.tcu.edu/kb/how-do-i-log-in/>).

Student Orientation Tutorial for TCU Online: If you have not yet taken the TCU Online Student Orientation Tutorial, please do so now. To access it, click on the Orientations semester OR view all courses in your My Courses widget visible upon logging in to TCU Online. Click on the "Student Orientation Tutorial" to enter the orientation course. Follow the instructions in the course. You can return to this tutorial at any time.

How This Course Will Use TCU Online

This course will be using TCU Online for many aspects of the course: instructions and announcements, readings, online quizzes, calendar, and posted grades.

Getting Help with TCU Online

If you experience any technical problems while using TCU Online, please do not hesitate to contact the TCU Online (D2L) Help Desk. They can be reached by phone or chat 24 hours a day, 7 days a week, 365 days a year.

Phone: 1-877-325-7778

Chat: Chat is available within TCU Online in the Help menu on the navigation bar.

If you are working with the Help Desk to resolve a technical issue, make sure to keep me updated on the troubleshooting progress.

If you have a course-related issue (course content, assignment troubles, quiz difficulties) please contact me.

Personal Settings & Notifications for TCU Online

As a student, you should set up your account settings, profile, and notifications. To do this you will login to TCU Online and select your name on the top right of the screen. In the Profile area, you can upload a photo of yourself and add personal information. In the Notifications area, you can add your phone number to receive text messages when grades are given as well as reminder texts for upcoming assignments and quizzes.

Student Success Tools for TCU Online

Pulse

[Pulse](https://www.d2l.com/products/pulse/) is a phone app which gives you access to the course calendar, assignments, grades, and announcements. This app provides a graph that can help you manage your time. Based on the number of assignments and events on the course calendar for your classes, the graph will display busy times for class work in the upcoming week. You can use this app to manage your daily workload, and it includes the ability to view and access course materials offline. You can download Pulse from the Google Play or Apple Store. You can learn more and download Pulse here: <https://www.d2l.com/products/pulse/>.

ReadSpeaker

[ReadSpeaker](#) includes a number of tools that can enhance your understanding and comprehension of course materials. ReadSpeaker can create an audio version of content that you can listen to while on a page within a course or that you can download to listen offline. ReadSpeaker can also read Microsoft Office files and PDFs. There are additional tools and features to assist you with reading and focusing in TCU Online, tools that provide support for writing and proofing text, and tools that can read non-TCU Online content aloud. You can learn

more about how to use ReadSpeaker tools here: <https://tcuonline.tcu.edu/how-to-hub/instructor-how-to-hub-for-tcu-online/integrations-and-mobile/readspeaker/>

Support for TCU Students

Campus Offices

- Alcohol & Drug Education Center (817-257-7100, Samuelson Hall basement)
- Brown-Lupton Health Center (817-257-7938 or 817-257-7940)
- Campus Life (817-257-7926, Sadler Hall 2006)
- Center for Academic Services (817-257-7486, Sadler Hall 1022)
- Center for Digital Expression (CDeX) (cdex@tcu.edu, Scharbauer 2003)
- Counseling & Mental Health Center (817-257-7863, Samuelson Hall basement)
- Mary Couets Burnett Library (817-257-7117)
- Office of Religious & Spiritual Life (817-257-7830, Jarvis Hall 1st floor)
- Student Development Services (817-257-7855, BLUU 2003)
- Center for Writing (817-257-7221, Reed Hall 419)
- Transfer Student Center (817-257-7855, BLUU 2003)
- Veterans Services (817-257-5557, Jarvis Hall 219)

Anti-Discrimination and Title IX Information

Statement on TCU's Discrimination Policy

TCU prohibits discrimination and harassment based on age, race, color, religion, sex, sexual orientation, gender, gender identity, gender expression, national origin, ethnic origin, disability, predisposing genetic information, covered veteran status, and any other basis protected by law, except as permitted by law. TCU also prohibits unlawful sexual and gender-based harassment and violence, sexual assault, incest, statutory rape, sexual exploitation, intimate partner violence, bullying, stalking, and retaliation. We understand that discrimination, harassment, and sexual violence can undermine students' academic success and we encourage students who have experienced any of these issues to talk to someone about their experience, so they can get the support they need.

- [Review TCU's Policy on Prohibited Discrimination, Harassment and Related Conduct or to file a complaint: https://titleix.tcu.edu/title-ix/.](https://titleix.tcu.edu/title-ix/)
- [Learn about the Campus Community Response Team and Report a Bias Incident: https://titleix.tcu.edu/campus-community-response-team/](https://titleix.tcu.edu/campus-community-response-team/)

Statement on Title IX at TCU

As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep any information you share private to the greatest extent possible. However, I have a mandatory

reporting responsibility under TCU policy and federal law and I am required to share any information I receive regarding sexual harassment, discrimination, and related conduct with TCU's Title IX Coordinator. Students can receive confidential support and academic advocacy by contacting [TCU's Confidential Advocate in the Campus Advocacy, Resources & Education office](https://care.tcu.edu/) at <https://care.tcu.edu/> or by calling (817) 257-5225 or the [Counseling & Mental Health Center](https://counseling.tcu.edu/) at <https://counseling.tcu.edu/> or by calling (817) 257-7863. [Alleged violations can be reported to the Title IX Office](https://titleix.tcu.edu/student-toolkit/) at <https://titleix.tcu.edu/student-toolkit/> or by calling (817) 257-8228. Should you wish to make a confidential report, the Title IX Office will seek to maintain your privacy to the greatest extent possible, but cannot guarantee confidentiality. Reports to law enforcement can be made to the Fort Worth Police Department at 911 for an emergency and (817) 335-4222 for non-emergency or TCU Police at (817) 257-7777.

Obligations to Report Conduct Raising Title IX or VAWA Issues

Mandatory Reporters: All TCU employees, except Confidential Resources, are considered Mandatory Reporters for purposes of their obligations to report, to the Coordinator, conduct that raises Title IX and/or VAWA (Violence Against Women Act) issues.

Mandatory Reporters are required to immediately report to the Coordinator information about conduct that raises Title IX and/or VAWA issues, including any reports, complaints or allegations of sexual harassment, discrimination and those forms of prohibited conduct that relate to nonconsensual sexual intercourse or contact, sexual exploitation, intimate partner violence, stalking and retaliation involving any member of the TCU community, except as otherwise provided within the [Policy on Prohibited Discrimination, Harassment and Related Conduct](#).

Mandatory Reporters may receive this information in a number of ways. For example, a complainant may report the information directly to a Mandatory Reporter, a witness or third-party may provide information to a Mandatory Reporter, or a Mandatory Reporter may personally witness such conduct. A Mandatory Reporter's obligation to report such information to the Coordinator does not depend on how he/she received the information. Mandatory Reporters must provide all known information about conduct that raises Title IX or VAWA issues to the Coordinator, including the identities of the parties, the date, time and location, and any other details. Failure of a Mandatory Reporters to provide such information to the Coordinator in a timely manner may subject the employee to appropriate discipline, including removal from a position or termination of employment.

Mandatory Reporters cannot promise to refrain from forwarding the information to the Coordinator if it raises Title IX or VAWA issues or withhold information about such conduct from the Coordinator. Mandatory Reporters may provide support and assistance to a complainant, witness, or respondent, but they should not conduct any investigation or notify the respondent unless requested to do so by the Coordinator.

Mandatory Reporters are not required to report information disclosed (1) at public awareness events (e.g., "Take Back the Night," candlelight vigils, protests, "survivor speak-outs," or other public forums in which students may disclose such information (collectively, public awareness events); or (2) during an individual's participation as a subject in an Institutional Review Board approved human subjects research protocol (IRB Research). TCU may provide information about Title IX rights and available resources and support at public awareness events, however, and Institutional Review Boards may, in appropriate cases, require researchers to provide such information to all subjects of IRB Research.

Relevant reporting phone numbers are: 911 for an emergency and (817) 335-4222 for non-emergency or TCU Police at (817) 257-7777.

Student Access and Accommodation

Texas Christian University affords students with disabilities reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. To be eligible for disability-related academic accommodations, students are required to register with the TCU Office of Student Access and Accommodation and have their requested accommodations evaluated. Students are required to provide instructors an official TCU notification of accommodation approved through Student Access and Accommodation. More information on how to apply for accommodations can be found at <https://www.tcu.edu/access-accommodation/> or by calling Student Access and Accommodation at (817) 257-6567. Accommodations are not retroactive and require advance notice to implement.

Emergency Response Information

Please review [TCU's L.E.S.S. is More public safety video](https://publicsafety.tcu.edu/less-is-more/) to learn about Lockdown, Evacuate, and Seek Shelter procedures. (<https://publicsafety.tcu.edu/less-is-more/>)

[TCU's Public Safety website](https://publicsafety.tcu.edu/) provides maps that show our building's rally point for evacuation and the seek shelter location. (<https://publicsafety.tcu.edu/>)

In the event of an emergency, call the TCU Police Department at **817-257-7777**.

Download the [Frogshield Campus Safety App](https://police.tcu.edu/frogshield/) on your phone. (<https://police.tcu.edu/frogshield/>).

Course Schedule

This calendar represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunities. Such changes will be clearly communicated.

Date	Topic	Assigned Content	Learning Activity
Aug. 24 Tues.	Introduction to Oil and Gas	Module: Introduction Module: The Oil and Gas Industry	Online Quiz 1: Oil and Gas Industry
Aug. 31 Tues.	Hydrocarbons and Sedimentary Geology	Module: Hydrocarbons Module: Geology of a Prospect Section: What is a Prospect Sub-module: Sedimentary Geology	Online Quiz 2: Hydrocarbons Online Quiz 3: Prospects Online Quiz 4: Sedimentary Geology
Sep. 7 Tues.	Subsurface Tools and Methods and Conventional Plays	Module: Geology of a Prospect Sub-Module: Subsurface Geologic Tools and Methods Sub-Module: Conventional Plays	Online Quiz 5: Subsurface Tools and Methods Online Quiz 6: Conventional Plays In-class Exercise: Correlation and Mapping
Sep. 14 Tues.	Unconventional Plays	Module: Geology of a Prospect Sub-module: Unconventional Plays	Online Quiz 7: Unconventional Plays
Sep. 21 Tues.	Prospect Reserves and Economics	Module: Geology of a Prospect Sub-module: Assessing the Prospect Sub-module: Reserves Sub-module: Economics	Online Quiz 8: Assessing the Prospect Online Quiz 9: Reserves Online Quiz 10: Economics In-class Exercise: Decline Curve Analysis
Sep. 29 Tues.	Drilling a Well	Module: Drilling	Online Quiz 11: Drilling #1

Date	Topic	Assigned Content	Learning Activity
		Sub-module: Drilling the Well	Online Quiz 12: Drilling #2 In-class exercise: Directional drilling
Oct. 5 Tues.	Completions	Module: Completions	Online Quiz 13: Completions Online Quiz 14: Hydraulic Fracturing & DUCS In-class exercise: Frac fluids
Oct. 12 Tues.			Midterm Exam
Oct. 19 Tues.	Production	Module: Production	Online Quiz 15: Production Facilities Online Quiz 16: Production Phases
Oct. 26 Tues.	Geothermal	Module: Geothermal	Online quiz 17: Geothermal
Nov. 2 Tues.	Coal	Module: Coal	Online quiz 18: Coal
Nov. 9 Tues.	Uranium & Rare Earth Elements	Module: Uranium & Rare Earth Elements	Online quiz 19: Uranium and REEs
Nov. 16 Tues.	Tidal and Hydroelectricity	Module: Tidal and Hydroelectricity	Online quiz 20: Tidal and Hydroelectricity
Nov. 30 Tues.	Biomass	Module: Biomass	Online quiz 21: Biomass
Dec. 7 Tues	Environmental Issue Discussion and Wrap-up		
Dec. 14 Tues.			Final Exam

Student Perception of Teaching (SPOT)

Towards the end of the term you will receive an email asking to complete your SPOT for this course. I appreciate your thoughtful and reflective feedback to help make this course successful for future students. You can fill out the SPOT by clicking on the link in the email or in TCU Online when SPOTs open. The information from the SPOT survey will help me to make improvements to the class in following years.

TCU Mission Statement

To educate individuals to think and act as ethical leaders and responsible citizens in the global community.