

# FINA 4356 : Financial Risk Management

Fall 2023

**CLASS MEETING:** CLASS MEETING: T,TH 11:00 A.M – 12:20 PM, Soules Coll of Business 00214

**TEACHING METHOD:** Lecture

**OFFICE & TELEPHONE NUMBER:**

Office: SCB 305.3 Phone: 903-565-5806

**EMAIL ADDRESS:** [hshin@uttyler.edu](mailto:hshin@uttyler.edu)

**OFFICE HOURS:** T,TH 10:00 A.M – 11:00 A.M in Office

**FACULTY-STUDENT COMMUNICATIONS:** I generally respond to email messages within two working days. Response time may be a little longer on weekends and holidays. Email messages should be sent to me at [hshin@uttyler.edu](mailto:hshin@uttyler.edu) rather than through Patriot email. If you'd like to arrange a phone call at another time, just send me an email and I'll schedule a time that works for both of us. Please note that assignments will be returned within three days of the assignment's due date. When I cannot meet that deadline, I will notify you with an alternative timeline. For exams, it will probably take me a few days to get all grades recorded, depending upon how many problem/essay questions are on a particular exam. If you have any questions about what you missed, I will be happy to meet with you to go over your exam. I do not make the graded exam available for viewing online.

*It is important to take the necessary precautions to ensure a healthy and successful year. UT Tyler continues to urge you to protect yourselves against the flu, COVID and any new threats that may be developing. Be diligent about preventive measures such as washing hands, covering sneezes/coughs, social distancing and vaccinations, which have proven to be successful in slowing the spread of viruses. Encourage those who don't feel well to stay home, and if they show symptoms, ask them to get tested for the flu or COVID. Self-isolation is important to reduce exposure ([CDC quarantine/isolation guidelines](#)). Please work with your faculty members to maintain coursework and please consult [existing campus resources](#) for support.*

**COURSE DESCRIPTION:**

Focusing on Energy industry, this course covers financial derivatives and their use for risk management. Topics include:(1) the fundamental concepts and theoretical reasoning of each derivatives, (2) the concept of risk and its relationship to uncertainty in business operations, (2) the severity and consequences of a given risk in a firm and appropriate risk measurement techniques, and (3) managing risk faced by firms, especially associated with fluctuating commodity prices/exchange rate/interest rate, especially associated with fluctuating oil/natural gas prices.

**PREREQUISITE:** FINA 3330 (Investment)

## LEARNING OUTCOMES:

Upon completion of this course, the student will be able to:

1. Identify and categorize the types of risks faced by energy firms, especially oil & gas firms.
2. Explain risk taxonomy and its application to different risk frameworks.
3. Assess the severity and consequences of a given risk in energy industry.
4. Suggest the various hedging techniques specific to oil & gas firms in energy risk management.
  - a. Explain how derivatives (e.g., forward contracts or options) are used to manage financial risk faced by energy firms
  - b. Access the economic rationale for risk management
  - c. Apply hedging techniques specific to oil & gas firms to “real world” practice, especially price risk of oil & natural gas
5. Assess challenges related to technology, investment and regulation in energy industry, and suggest potential risk management solutions.

## COURSE STRUCTURE:

This course is designed to familiarize students with the terms and applications of various risk management techniques used for the energy industry. The course begins with a general overview in the energy industry. Next, the course discusses general risk management topics, including the concept of risk and its relationship to uncertainty. Then, it examines the analytical tools/process to improve risk management (focus on energy derivatives) and how energy firms make related decisions in energy industry businesses. Thus, this course is divided into three segments that correspond with course objectives; the survey on the energy industry, identification and risk and application of hedging tools, and the valuation of hedging tool (derivatives). To achieve the goal of course, students will be required to:

1. Visit class Canvas every day.
2. Don't miss any assignments (tests).
3. Participate in class activities and share insights with classmates by participating discussion in class.
4. Use technology tools.

## REQUIRED TEXT:

- Fundamentals of Futures and Options Markets, 9th Edition John C. Hull,. ISBN-13: 978-0-13-408324-7
- StockTrak -- a virtual trading program- is required for this course. Specific details about StockTrak project will be shared in the second week of the semester.

## TOPICS COVERED:

Week	Topic Covered	Remark	Chapter Covered
Week 1 (Aug 21)	Syllabus  Introduction		Hull:Ch1
Week 2 (Aug 28)	Futures markets and central counterparties		Hull:Ch2

Week 3 (Sep 4)	Hedging strategies using futures Trading Begin (Sep 4)	Hull:Ch3 StockTrack
Week 4 (Sep 11)	Mechanics of options markets Interest rate Trading strategies involving options A 2-page paper outlining your strategy (Sep 15)	Hull:Ch9 Hull:Ch10 StockTrack
<b><i>Review (Sep 19) &amp; Exam #1 (Sep 21)</i></b>		
Week 6 (Sep 25)	Interest rates	Hull:Ch4
Week 7 (Oct 2)	Interest rates Interest rate futures	Hull:Ch4 Hull:Ch6
Week 8 (Oct 9)	Interest rate futures A 2-page paper reviewing your strategy (Oct 6)	Hull:Ch6 StockTrack
Week 9 (Oct 16)	Value at risk and expected shortfall	Hull Ch7
<b><i>Review (Oct 24) &amp; Exam #2 (Oct 26)</i></b>		
Week 11 (Oct 30)	Swaps	Hull Ch7
Week 12 (Nov 6)	Swaps Credit derivatives Trading End (Nov 10)	Hull Ch7 Hull CH 23 StockTrack
Week 13 (Nov 13)	Credit derivatives	Hull Ch 23
Week 15 (Nov 27)	Students' Presentation	StockTrack
<b><i>Final Exam -- Tuesday, December 5 11:00 a.m.-1:00 p.m.</i></b>		

#### **BONUS OPPORTUNITIES**

Every class day except the exam day I may 1) check the attendance and give points 2) reward students who answer questions ask in class as bonus 3) produce a pop-up quiz with variable point allocation about current market event. Also, to curve the course grade I may give some other bonus opportunities (i.e., bonus presentation) to the class as needed.

#### **REGULAR QUIZZES**

To ease the digestion of heavy load of materials at one time in examination I may give homework assignments at frequent and regular intervals but will **not** collect any assignments. Instead I will produce quizzes questions (including pop-up quizzes) on the basis of homework assignments. The quizzes will be designed to encourage the student to keep up with the material on an on-going basis and to motivate good class attendance. If a student is absent, no second chance will be given unless the absence is anticipated and the instructor is

notified in advance, or if there is a reasonable excuse for the absence under the university rules. You are allowed to drop the lowest score in the quizzes.

### THREE MAJOR EXAMINATIONS

The format will be combination of multiple choices, short essays, and quantitative problems. The examinations will cover all material covered in readings, assignments, class discussions. You are required to bring a Scantron (Form # 882-E) and a #2 pencil to each exam for multiple choice section of the exam. Ordinarily I do not curve exam scores. Instead, as a way of boosting class grade, I may put extra questions for bonus points to exams if I feel necessary.

### StockTrack Simulation Game

We will use StockTrak as a means of gaining practical experience in risk management issues faced by companies. StockTrak is a core component of the class. Using StockTrak, which is a global portfolio simulation tool that works like any other stock brokerage platform, you are required to form portfolios using Oil & Gas related securities (you may extend your portfolio to companies in commodities with the instructor's permission). On top of the grade you earn from the simulation, 150 points, your activities for Stock Trak can also be used as part of class participation for the course. **Further information on this subject will be shared by the 2nd week of the semester.**

### StockTrack Presentation

Your will be required to make a short presentation on your StockTrack portfolio. A typical presentation will last about 15 minutes. The presentation has total points of 30. Further information on this subject will be shared by the 10th week of the semester

### MAKE-UP POLICY:

Every student is required to take exams during the announced times. Exceptions are made only under very special circumstances (e.g., conflict with another class, serious illness) and with the **instructor's prior permission**. A **job conflict or commuting inconvenience** is not a sufficient excuse for missing exams. Written evidence of special circumstances is expected. Furthermore, there will be **no makeup exams**.

### EVALUATION:

The primary method of instruction in this course is lecture. Your class grade will be determined by a weighted average of three mid-term examinations, the final examination, and assignments. It is possible that a student who sustains "A" up to the third exam may end up with "B" or "C" in final letter grade after the final and the project graded. You **must** allocate extra study hours for the final to achieve the letter grade of your goal. I'll not take any blame for downgraded letter grade if the poor performance is caused by the spoiled final and (or) quizzes.

Exam 1	100
Exam 2	100
Final	170

Quiz	90
StockTrack Simulation	200
StockTrack Presentation	40
<b>Total</b>	<b>700</b>

The approximate grading scale is:

A 90% or above
B 80% or above
C 70% or above
D 60% or above
F Below 60%

All grades beginning Spring 2007 must be a "C" or better for the University Lower Division Core, Business Field of Study, Upper Division Business Core, and Major Area. The only "D" allowed will be in General and Business Electives. Thus, if you are taking this class as your fulfillment of upper division core for degree in business, you should achieve a "C" or better grade.

### Writing Center

The UT Tyler Writing Center has locations in BUS 202. I encourage you to access the tutoring services offered by the UT Tyler Writing Center. The Writing Center also offers online consultations for students who live at a distance or who cannot visit during our operating hours. The tutors in the Center can help you brainstorm ideas, structure your essay, clarify your purpose, strengthen your support, and edit for clarity and correctness. But they will not proofread, edit, or write your paper for you. More information about the UT Tyler Writing Center hours can be found at the website:

[www.uttyler.edu/writingcenter](http://www.uttyler.edu/writingcenter)  
<https://owl.english.purdue.edu/ow>

### APPEAL

To appeal the grading of the exams (quizzes) make a photocopy of your answer (if it is on campus paper exam) and write out a brief explanation of why you believe that you deserved more points). Including all HWs (quizzes) and bonus assignments (i.e., Q&A bonus), **you should appeal no later than one week from the date you receive the exam result.** Then, I will respond you within one week of appeal and save all grade appeals until the end of the semester. **I won't accept any late appeal for grade.** Also, within a week of every exam given I'll update the gradebook on Canvas up to the exam. You should inform me any discrepancy between my gradebook and what you have by the following class time. I won't take any responsibility if you fail to correct the error in my gradebook timely (especially for Q&A and attendance bonus). **No Exceptions!**

### CLASSROOM CONDUCT

- **You must attend all regularly scheduled classes**, except for those occasions warranting an excused absence under the policy detailed in the catalogue.
- You should **arrive prepared for class and on time**, and remain in class until the class is **dismissed**. If you arrive late or need to leave early, please try not to disturb other students. You could be penalized significantly by chronically coming late or leaving early.
- You should **maintain an appropriate academic climate** by refraining from all actions which disrupt the learning environment (e.g., making noise, ostentatiously not paying attention, and leaving and reentering the classroom inappropriately).
- The use of cell phones or other communication devices is disruptive, and is therefore prohibited during class except for emergency use.
- Students are permitted to use their laptop computers during class for note-taking and other class-related work **only**. Computers will not be allowed during exams.
- Food and drink are not allowed in classrooms

#### **COLLEGE OF BUSINESS STATEMENT OF ETHICS:**

The ethical problems facing local, national and global business communities are an ever-increasing challenge. It is essential the College of Business and Technology help students prepare for lives of personal integrity, responsible citizenship, and public service. In order to accomplish these goals, both students and faculty of the College of Business and Technology at The University of Texas at Tyler will:

- Ensure honesty in all behavior, never cheating or knowingly giving false information.
- Create an atmosphere of mutual respect for all students and faculty regardless of race, creed, gender, age or religion.
- Develop an environment conducive to learning.
- Encourage and support student organizations and activities.
- Protect property and personal information from theft, damage and misuse.
- Conduct yourself in a professional manner both on and off campus.

#### **STUDENTS RIGHTS AND RESPONSIBILITIES**

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www2.uttyler.edu/wellness/rightsresponsibilities.php> .

#### **GRADE REPLACEMENT/FORGIVENESS AND CENSUS DATE POLICIES**

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

### **STATE-MANDATED COURSE DROP POLICY**

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

**Withdrawing from Class** - Students you are allowed to withdraw (drop) from this course through the myUTTyler Withdrawal portal. Instructions for dropping a course using the myUTTyler portal can be found on the Enrollment Management One Stop Tutorial Library page. (See the Enrollment Services section.) Instructions for dropping a course before and after courses begin are provided.

Texas law prohibits students who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at other 2-year or 4-year Texas public colleges and universities. Make sure to consider the impact withdrawing from this class has on your academic progress as well as the financial implications. We encourage you to consult your advisor(s) and financial aid for additional guidance. CAUTION #1: Withdrawing before census day does not mean you get a full refund. Please see the Tuition and Fee Refund Schedule. CAUTION #2: All international students must check with the Office of International Programs before withdrawing. All international students are required to enroll full-time for fall and spring terms. CAUTION #3: All UT Tyler Athletes must check with the Athletic Academic Coordinator prior to withdrawing from a course.

**Final Exam Policy:** Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members are required to maintain student final examination papers for a minimum of three months following the examination date.

**Incomplete Grade Policy:** If a student, because of extenuating circumstances, is unable to complete all of the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in lieu of a grade only when all of the following conditions are met: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all course work or final

exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor; and (c) the student presents these reasons prior to the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average for a student.

The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to complete all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has not been assigned within one year, then the Incomplete will be changed to an F, or to NC if the course was originally taken under the CR/NC grading basis, and may adversely affect the student's academic standing.

**Grade Appeal Policy:** - UT Tyler's Grade Appeal policy requires the completion of a Grade Appeal form for this action to take place. The grade appeal begins with the instructor of your course. If you do not agree with the decision of the instructor, you may then move your appeal to the department chair/school director for that course. If you are still dissatisfied with the decision of the chair/director, you may move the appeal to the Dean of the College offering that course who has the final decision. Grade appeals must be initiated within sixty (60) days from the date of receiving the final course grade. The Grade Appeal form is found on the Registrar's Form Library.

**Disability/Accessibility Services:** In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with the Assistant Director Student Accessibility and Resources/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079."

**Military Affiliated Students:** UT Tyler honors the service and sacrifices of our military affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with your faculty member if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make your faculty member aware of any complications as far in advance as possible. Your faculty member is willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. Campus resources for military affiliated students are in the Military and Veterans Success Center (MVSC). The MVSC can be reached at [MVSC@uttyler.edu](mailto:MVSC@uttyler.edu), or via phone at 903.565.5972.

**Academic Honesty and Academic Misconduct:** The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the Student Conduct and Discipline policy in the Student Manual Of Operating Procedures (Section 8).

FERPA - UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in University Policy 5.2.3. The course instructor will follow all requirements in protecting your confidential information.



## **COVID Guidance**

Information for Classrooms and Laboratories: Students are expected to wear face masks covering their nose and mouth in public settings (including classrooms and laboratories).

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, digestive issues (e.g. nausea, diarrhea), or a higher than normal temperature should stay at home and are encouraged to use the UT Tyler COVID-19 Information and Procedures website to review protocols, check symptoms, and report possible exposure. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

**Recording of Class Sessions:** Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

**Absence for Official University Events or Activities:** This course follows the practices related to approved absences as noted by the Student Manual of Operating Procedures (Sec. 1 -501).

**Absence for Religious Holidays:** This course follows the practices related to Excused Absences for Religious Holy Days as noted in the Catalog.

**Campus Carry:** We respect the right and privacy of students who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>.