Energy Trading Systems Course Syllabus
Fall 2021
FINA 4397 MIS 4390 MIS 7397

Course Objectives

- Immerse graduate and undergraduate students with energy business processes related to physical and financial commodity trading, scheduling, risk analysis, controls & compliance, and accounting.
- Provide hands-on exposure to software tools used by major energy firms in the industry.
- Illustrate the IT needs that these tools create and provide a look into the business of providing technology services to energy firms.
- Provide interaction between talented students and the energy trading community.

Fundamental Concepts

Structural overview of the energy industry supply chain with a focus on natural gas trading and marketing. We will be concentrating on natural gas in this class for several reasons:

- Natural gas is becoming an extremely attractive "bridge "fuel
- Recent discoveries/technology advancements in shale gas extraction will ensure natural gas' prominence Worldwide. (Fracking /LNG)
- Natural gas is a fundamental commodity for almost all energy traders
- Natural gas provides a basis for understanding commodity trading without over-complicating the subject
- The Trading and Scheduling tools currently available to Bauer students are natural gas focused.

We will survey different segments of the natural gas industry:

- The Three (3) Natural Gas - Functional Areas (Streams)
- The Three (3) Natural Gas – Market Places
- The Three (3) Natural Gas – Functional Processes

- The roles of producers, processors, marketers, pipelines, utilities and end- users in the energy value supply chain

We will learn about physical commodity trading and logistics and how they relate to financial trading and hedging.

We will look at internal and financial controls and the role of the risk manager as the "cop on the beat."

Finally, we will account for, and report the transactions we study to give the student a practical, "hands on" experience with a physical and financial accounting close. Remember, **"If it doesn't make it to accounting, it never happened."**

Class Information

Three hours on scheduled Saturday class days have been set aside from 9am - 12pm to view that week's Lecture video or work on your assigned Lab.
For meeting with the professor or the TA's, please request by email for an online session. **(Please note the professor and the TA's are available on Saturdays from 9am – 12 pm for any questions or issues)**.
Use the below email address to contact us:

- **UHsupport@risesolutions.net**: Use this address for course questions, exam makeup requests and questions on Labs. Professor Peña and the TAs are all included on the UH Support email.

Textbooks
There is **NO** required Textbook for the class, class documentation is provided on a week-by-week basis via your Blackboard account.

As an additional resource for this class, the following book is highly recommended, but not required:

1. Shively, B. and Ferrare, J., Understanding Today's Natural Gas Business Enerdynamics, 2011 ISBN: 978-0-9741744-0-2

This book is available online for purchase.

ETRM System Access

For this class, we will be using the Energy Flow ETRM system provided by Rise Services. Rise Services has provided a real world, laboratory environment for you to gain hands-on experience with the subject matter presented in this class. The client for the system is delivered through the Internet via a Citrix plug-in. We will establish laboratory accounts for you. The account information will be distributed after the first two weeks of class.

Policy on Late Submissions

In the business environment, completing assignments and projects after their established deadlines can potentially cost your company a substantial amount of money and you, your job. Timeliness matters.
Therefore, any assignments that are turned in after their due date will be docked appropriately for each day they are late.

Administrative Notes

Important Dates

August 28, 2021	First day of class
September 8, 2021	Last Day to Drop without receiving a grade
September 18, 2021	Exam 1
October 9, 2021	Exam 2
November 4, 2021	Last Day to Drop with a “W”
November 6, 2021	Exam 3
December 11,2021	Exam 4

Drop Policy

It is the student’s responsibility to know published drop dates and to act on those dates if necessary or desired.

Course Evaluations

The C.T. Bauer College of Business requires all its instructors to be evaluated by their students. The results of these evaluations are important to provide feedback to instructors on how their performance can be improved. We encourage students to provide feedback to instructors through the evaluation process.

Academic Honesty

The University of Houston Academic Honesty Policy is strictly enforced by the C.T. Bauer College of Business.
No violations of this policy will be tolerated in this course. A discussion of the policy is included in the University of Houston Student Handbook which can be downloaded at http://www.uh.edu/dos/publications/handbook.php. Students are expected to be familiar with this policy. Pay particular attention to the list of behaviors that are considered academic dishonesty in Section 3.02 Academic Dishonesty Prohibited.

Items (d) and (h) say:

(d) Representing as one's own work the work of another without acknowledging the source (plagiarism). **This would include submitting substantially identical laboratory reports or other materials in fulfillment of an assignment by two or more individuals, whether or not these used common data or other information, unless this has been specifically permitted by the instructor.**

(h) **Using another's laboratory results as one's own, whether with or without the permission of the owner,** Do not copy or share your work with other students. ***If you do, you risk the possibility of failing the class.***

Accommodations for Students with Disabilities

The C. T. Bauer College of Business would like to help students who have disabilities achieve their highest potential. To this end, in order to receive academic accommodations, students must register with the Center for Students with Disabilities (CSD) (telephone 713-743-5400), and present approved accommodation documentation to their instructors in a timely manner.

Attendance (No Class Attendance / 100% Online)

This class is completely online.

Grades and Grading

Your grades will be based on the following individual assignments:

Grading	
Assignments	**Grade Points**
Lab Exercises – GasTrak System	40 points
Exam 1	15 points
Exam 2	15 points
Exam 3	15 points
Exam 4	15 points
Total	100 points

Overall grading scale for the class will be:

A 93-100	B+ 87-89	C+ 77-79	D+ 67-69	
A- 90-92	B 83-86	C 73-76	D 63-66	F <60
	B- 80-82	C- 70-72	D- 60-62	

Lab Schedule

Lab #	Assigned Date	Description	Due Date	Points
1	9/11/2021	**Source Information** Enter the third-party information provided.	9/18/2021	4
2	9/18/2021	**Trading & Scheduling for Buy/Sells** Entering & linking same location Buy/Sells	9/25/2021	4
3	9/25/2021	**Single-Leg Scheduling** Linking Supply to Demand via transport agreements	10/2/2021	4
4	10/2/2021	**Storage & Imbalance Transactions** Utilizing Storage & Imbalances to supplement requirements	10/9/2021	4
5	10/9/2021	**Transporting Gas in & out of Pools** Utilizing Pools to aggregate Supply and simplify the Scheduling process	10/16/2021	4
6	10/16/2021	**Transporting Gas across multiple Pipelines** Scheduling Gas through Pipeline Interconnects	10/23/2021	4
7	10/23/2021	**Transportation through Plants** Scheduling Gas in & out of Processing Plants	10/30/2021	4
8	10/30/2021	**Advanced Scheduling Scenario 1** Higher Level Complexity Scheduling	11/6/2021	4
9	11/6/2021	**Advanced Scheduling Scenario 2** Higher Level Complexity Scheduling	11/13/2021	4
10	11/13/2021	**Advanced Scheduling Scenario 3** Higher Level Complexity Scheduling	11/20/2021	4

UHsupport@risesolutions.com: This address is your direct communication for assistance with lab work, general course questions, exam scheduling, grades, etc. Your professor and all TAs are included on all UH support emails, so this address will give you the quickest response on any inquiries.

Lab assignment due dates are strictly adhered to, and late work will be penalized for partial or entire credit.

Class Agenda

Weeks	Dates	Meeting	Class Description
1	Aug 28	Online	**The Energy Industry – Overview** Our Focus on Natural Gas.
2	Sep 4	Online	**Physical & Operational Infrastructure** The Physical Nature of the Industry and the people that operate within.
3	Sep 11	Online	**Business Setup – Source Information** In preparation of conducting business, key contractual, locational, and pricing information must be in place.
4	Sep 18	Online	**Exam 1** **&** **An Industry in Motion - The Flow** The Three Major Components within the Gas Industry – Supply, Logistics and Demand.
5	Sep 25	Online	**Market Supply** The ins and outs of acquiring Natural Gas
6	Oct 2	Online	**Market Demand** The ins and outs of Disposing Natural Gas Commodities for profit
7	Oct 9	Online	**Exam 2** **&** **Logistics - Processing** Making the Gas Market Ready
8	Oct 16	Online	**Logistics - Transport** The Logistical component that ties it all together.
9	Oct 23	Online	**Logistics - Storage** Inventories for later use
10	Oct 30	Online	**Profit and Loss Analysis** Understanding the cost and revenue mechanisms that determine profitability.
11	Nov 6	Online	**Exam 3** **&** **Risk, Controls & Compliance** Safeguarding your assets and ensuring the flow of accurate information.

12	Nov 13	Online	**Accounting & Settlement** The ultimate destination for all transactions and their disposition.
13	Nov 20	Online	**Technology Evolution** How Technological Evolution continues to improve the Natural Gas Industry
14	Nov 27	No Class	**Thanksgiving Holiday**
15	Dec 4	Online	**Energy Industry - Where the Industry's Headed.** The Green Energy ramp-up & The Global LNG Market
16	Dec 11	Online	**Exam 4**