

Energy Trading Systems Course Syllabus
Fall 2019
FINA 4397 MIS 4390 MIS 7397

Course Objectives

1. Immerse graduate and undergraduate students with energy business processes related to physical and financial commodity trading, scheduling, risk analysis, controls & compliance, and accounting
2. Provide hands-on exposure to software tools used by major energy firms in the industry
3. Illustrate the IT needs that these tools create, and provide a look into the business of providing technology services to energy firms
4. 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 a very attractive "bridge" fuel
- Recent discoveries/technology advancements in shale gas extraction will ensure natural gas' prominence World Wide. (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:

- Renewable and Non-Renewable Energy
- Production and Exploration
- Processing
- Transportation
- Storage

- Delivery
- 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

Class will meet Saturday mornings, 9am – 12pm. in room 170 of Melcher Hall. **Instructors & Office Hours**

- J. Frank Peña, CPA. (Office hours are on Saturdays after class, or by appointment.
- **UHsupport@risesolutions.net**: Use this address for course questions, absences, exam makeup requests and questions on Labs. Professor Peña and the TAs are included on all 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

In this class, we will be using the GasTrak energy transaction risk management system (ETRM) by Data Management Solutions (DMS). DMS 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 in 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, in this class any papers or written assignments that are turned in after their due date will be docked appropriately for each day they are late.

Administrative Notes

Important Dates

August 24 th , 2019	First day of class
September 17 th , 2019	Last Day to Drop without receiving a grade
September 28 th , 2019	Exam 1
November 4 th , 2019	Last Day to Drop with a "W"
November 2 nd , 2019	Exam 2
December 1 st , 2019	Exam 3

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 (Impact on Your Grade)

This class is all about the learning and the predominant amount of that is done in class. So, class attendance is not an option, it is a **requirement**.

As you will note below, attendance is not a component of grading, but I will be calling on students to participate throughout every class. If you are not present when called on, your grade will be severely affected. In case of **justifiable absences**, students must contact the Teacher's Assistants (TAs) via email posted on Blackboard, **prior** to your absence to avoid having your grade affected.

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	20 points
Exam 2	20 points
Exam 3	20 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 – DATES TO BE ANNOUNCED

Lab #	Assigned Date	Description	Due Date	Points
1	Aug-31	Introduction to Lab and Login Access Credentials Assignment is to ensure access to the GasTrak system	Sep-6	3
2	Aug-31	Source Information Enter the third-party information provided.	Sep-6	6
3	Sep-7	Trading for Buy/Sells Enter the third-party information provided.	Sep-13	6
4	Sep-14	Scheduling Buy/Sells Schedule Buy/Sells on “none” contracts.	Sep-20	6
5	Oct-5	Single-Leg Scheduling Enter and schedule single-leg transactions.	Oct-11	6
6	Oct-12	Trading Using Scheduler Enter storage and imbalance transactions.	Oct-18	6
7	Oct-19	Multi-Leg Scheduling Schedule pool and transfer gas.	Oct-25	7
		Total Lab Points		40

UHsupport@risolutions.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 UHsupport 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 24 th	In-Class	Introduction The Energy Industry & Our Focus on Natural Gas
2	Aug 31 st	In-Class	Physical Structure & Operations The Infrastructure of the Industry and how the Industry Operations makes it happen
3	Sep 7 th	Online/Lab	The Market Place- Acquisition & Dispositions The Roles of Supply and Demand in the Market Place
4	Sep 14 th	In-Class	The Market Place- Acquisition & Dispositions- (Continued) Industry Pricing, Transaction Calculations and Profit Objectives and Margins
5	Sep 21 st	Online	Deal Pricing, Indexes, WACOG, WAPOG, Landed, Basket Pricing, Flat Rates, and Related Margins & Exam 1 Review
6	Sep 28 th	CASA	Exam 1 (Weeks 1,2,3,4,5) @ CASA CBB
7	Oct 5 th	In-Class	Processing and Transport The Logistical Component That Ties It All Together
8	Oct 12 th	Online	Transport Scheduling Making The Gas Market Ready
9	Oct 19 th	In-Class	Transport and Storage Inventories for Later Use
10	Oct 26 th	Online	Exam 2 Review and Logistics Flow

11	Nov 2nd	CASA	Exam 2 (Weeks 7,8,9) @ CASA CBB
12	Nov 9 th	In-Class	Risk, controls and compliance Ensuring The Flow of Accurate Information
13	Nov 16th	Online	Accounting and Settlement The Business Transactions Ultimate Destination
14	Nov 23rd	In-Class	Reporting and Technology Changing How the Industry Works Final Class- Course Certificates
15	Nov 30th	No Class	Holiday – Thanksgiving
16	Dec 1 st	CASA	Exam 3 (Weeks 11,12, 13, 15) Sunday, December 1st 2019