

FIN 394 Financial Strategies (Energy Focus)

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Office Hours:

Titman: After class or by appointment, CBA 6.266

Butler: MW 5:00-6:30 pm and by appointment, CBA 6.438

Swem: After class or by appointment, CBA 5.324D

Description: This course is primarily focused on the initiation, evaluation, financing and hedging of major investments with a focus on the energy industry. The theory behind these decisions will be featured but practical issues involving application of the concepts will be emphasized, including scenario analysis and simulation.

Key questions addressed include:

What are the relevant risks of the investment and can the firm hedge these risks?

How can the investment be financed, and how does financing contribute to its value?

Is there flexibility in the way that the investment can be implemented, and how does this flexibility contribute to value?

Does the investment exploit the firm's existing comparative advantages, and does it create new comparative advantages that will generate valuable opportunities in the future?

Pre-requisites: Before starting the class students should have a good understanding of the following material:

Basic valuation concepts, you should understand how to estimate free cash flows, determine discount rates and perform basic simulation and sensitivity analyses (e.g. chapters 1-7 in Titman and Martin)

Familiarity with certainty equivalent cash flows and how they relate to forward prices (e.g. Chapters 9-13 in the Grinblatt and Titman)

Understand the Modigliani and Miller theorem : why corporate taxes create a preference for debt financing, and how financing affects the cost of capital. (e.g. chapters 14-17 in the Grinblatt and Titman)

Valuation of forwards, futures and commodity options including the Black-Scholes and binomial option pricing models (e.g Chapters 11-13 of Titman and Martin)

Requirements: The class consists of lectures and case discussions. You should form groups consisting of approximately 4 students each for the purpose of writing up and discussing the cases. Each group will be required to turn in a 3 page executive summary of their analysis along with the appropriate exhibits that provides more details about their work. Each student is expected to be actively involved in the case discussions. If for any reason you are not adequately prepared to contribute to the discussion in a class, please let me know before class and I will not call on you.

Guest speakers: When we have guest speakers, the appropriate dress is business casual.

Readings:

Required: case package <https://cb.hbsp.harvard.edu/cbmp/access/38769224>

Recommended: Valuation: The Art and Science of Corporate Investment Decisions, (Titman and Martin)

We will post lecture notes and other readings on Blackboard.

Grading:

This class can be broken down into two main parts. The first half focuses on valuation of oil and gas projects / companies and the use of real options. This material is more technical and will conclude with an exam over these issues. The second half of the class is more like a seminar series and the emphasis will be on participating and interacting with our guest speakers and there will not be an exam over this material.

The percentage of your final grade for each assignment is shown in the table below. Note that in pre-midterm period we will track your participation but it will only count 5/100 points or 5%. Due to the nature of the second half of the course, the participation points for the post-midterm period will count 10/100 points, 10%. These two evaluation categories are treated separately.

Also note that on the last Friday of the semester (December 4) we will buy you lunch and host a morning discussion of your CleanTech presentations. Details will follow as the semester unfolds.

Tentative Schedule (all dates but Midterm are subject to change)

<i>Points</i>	<i>Meeting</i>	<i>Date</i>	<i>Topic</i>
	1	26-Aug	Energy Economics
	2	31-Aug	Energy Economics
	3	2-Sep	Energy Economics
		7-Sep	Labor Day
2.5	4	9-Sep	Jimmy Murchison (Raymond James)
	5	14-Sep	Single Well Model
	6	16-Sep	Oil and Gas Valuation
5.0	7	21-Sep	ARETE (value CABOT)
	8	23-Sep	Oil and Gas Valuation
	9	28-Sep	Go Over Cabot valuation with students
	10	30-Sep	Real Options
	11	5-Oct	Real Options
	12	7-Oct	<i>Case: MW Petroleum</i>
8.0	13	12-Oct	<i>Case: MW Petroleum</i>
	14	14-Oct	Bruce Thompson: Valuing a power plant
	15	19-Oct	Real Options / Strategic Options
	16	21-Oct	<i>Case: CEPA</i>
8.0	17	26-Oct	<i>Case: CEPA</i>
25.0	18	28-Oct	Exam
	19	2-Nov	Risk Management
8.0	20	4-Nov	<i>Case: Risk Management at Apache</i>
	21	9-Nov	Capital Structure
8.0	22	11-Nov	<i>Case: Calpine Corporation</i>
4.5	23	16-Nov	Ownership Structures
	24	18-Nov	Rob Jones: MLPs and Ownership
	25	23-Nov	Ownership Structures
	26	25-Nov	<i>Thanks Giving</i>
	27	30-Nov	Top 10 lessons from class
8.0	28	2-Dec	<i>Case: Financing Mozal Corporation</i>
8.0	29	4-Dec	Alternative Energy Presentations
5.0			First Half Participation
10.0			Second Half Participation
			Class
100.0			Total

