

## AMS 492: Special Topics in Quantitative Finance

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Office Hours: Thursdays 4:00PM to 6:00PM

Class Location: SB Union 226

Textbook: “Investment Science” by David Luenberger

This course will provide an introduction to the quantitative models widely utilized in the practice of finance. The computations will be performed predominantly with Excel, a tool that enjoys widespread use in the finance community and trading desks. Current analysis of the financial markets will be incorporated into the class.

We will occasionally have distinguished speakers from the finance community speak to the class in a “How I Became a Quant” style where they will describe their experiences as a practitioner of quantitative finance. Resume writing and interviewing help is available on request.

There will be no exams. Students will be required to complete a project and submit a report at the end of the semester. Project topics will be given at the end of October. Grading will be based on the project report, homework, class participation, and attendance.

### Class Schedule\*

8/31/09 Introduction and housekeeping (Chapter 1)

9/2/09 Theory of Interest (Chapter 2)

9/7/09 Labor Day – No Class

9/9/09 Theory of Interest (Chapter 2)

9/14/09 Fixed Income Securities (Chapter 3)

9/16/09 Fixed Income Securities (Chapter 3)

**Speaker: Andrew Mullhaupt, Ph.D.**

9/21/09 The Term Structure of Interest Rates (Chapter 4)

9/23/09	The Term Structure of Interest Rates (Chapter 4)
9/28/09	Applied Interest Rate Analysis (Chapter 5)
9/30/09	Applied Interest Rate Analysis (Chapter 5)
	<b>Speaker Michael Driscoll, Ph.D.</b>
10/5/09	Mean-Variance Portfolio Theory (Chapter 6)
10/7/09	Mean-Variance Portfolio Theory (Chapter 6)
10/12/09	CAPM (Chapter 7)
10/14/09	CAPM (Chapter 7)
10/19/09	Models and Data (Chapter 8)
10/21/09	Models and Data (Chapter 8)
10/26/09	General Principles (Chapter 9)
10/28/09	General Principles (Chapter 9)
11/2/09	Forwards, Futures, and Swaps (Chapter 10)
11/4/09	Forwards, Futures, and Swaps (Chapter 10)
11/9/09	Models of Asset Dynamics (Chapter 11)
11/11/09	Models of Asset Dynamics (Chapter 11)
11/16/09	Basic Options Theory (Chapter 12)
11/18/09	Basic Options Theory (Chapter 12)
11/23/09	Additional Options Topics (Chapter 13)
11/25/09	Additional Options Topics (Chapter 13)
11/30/09	Interest Rate Derivatives (Chapter 14)
12/2/09	Interest Rate Derivatives (Chapter 14)
12/7/09	Catch-up
12/9/09	Catch-up

\*Speakers subject to change