Professor: Rasha Ashraf  
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Tel: 404-413-7348  
Office Hours: Tuesday 3:00 pm – 4:00 pm or by appointment

Course Description
This course introduces a sound foundation for the main concepts in investments. Students will acquire fundamentals of finance theory and analytical tools for making good investment decisions. The topics discussed include: risk-return analysis, portfolio selection, asset pricing, equity securities analysis, the efficient market hypothesis, derivatives analysis and pricing, fixed income securities, and the economics of the foreign exchange markets. This is a highly quantitative course and students are expected to be comfortable with basic finance and probability, statistics, regression analysis, and spreadsheet programming.

Reading for the Course
Required Text:

Careers in Finance by Trudy Ring (2nd or 3rd edition)

Requirements and Grading
The course grade will be determined by the following scheme:
<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Exam 1</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam 2</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam 3</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Project One</td>
<td>5%</td>
</tr>
<tr>
<td>Project Two</td>
<td>5%</td>
</tr>
<tr>
<td>Career Project</td>
<td>5%</td>
</tr>
<tr>
<td>Career Quiz</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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The following are the possible grades:

<table>
<thead>
<tr>
<th>Grade</th>
<th>F</th>
<th>D</th>
<th>C-</th>
<th>C</th>
<th>C+</th>
<th>B-</th>
<th>B</th>
<th>B+</th>
<th>A-</th>
<th>A</th>
<th>A+</th>
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<tr>
<td>Min</td>
<td>0</td>
<td>60</td>
<td>70</td>
<td>73</td>
<td>78</td>
<td>80</td>
<td>83</td>
<td>88</td>
<td>90</td>
<td>93</td>
<td>98</td>
</tr>
</tbody>
</table>

**Class Attendance**

Students are expected to attend the class regularly, arrive on time and stay in the class for the entire duration of the class. If you miss a class it is your responsibility to find out what happened during the class. If you need to leave early before the end of the class, you need to get approval from the instructor before the class begins. An attendance sign-up sheet will be circulated during each class and you are responsible to sign the class roll. If you do not sign the class roll you will be considered absent for the day. The attendance sheet will be circulated at the beginning of the class and if you arrive late and the professor has already collected the attendance sheet then you will not be permitted to sign it. If you are absent from the class more than five times, you will be dropped from the class by the instructor. This includes the first day of the class regardless of when you have registered for the class. If a student is withdrawn for excessive absences, a final grade of WF will be assigned.

**Exams**

The exams will include combinations of objective questions (multiple choice), true/false, numerical problems, short answer, and longer essays. Exams will be closed book and
closed notes. You’ll be provided with a formula sheet. Midterm exams will be held on the scheduled exam day and final exam will be held in the final exam week on the day and time stated in the course calendar.

**Projects**

There will be two class projects and one career project. The requirements of the projects will be discussed during the class. Each project is due by the end of the class period on the designated due date. Refer to the course calendar for the due dates. No late submission is accepted and failure to submit the project on time will result a score of zero. The project is individually assigned and each student is expected to work on it completely independently without any help from others. Each student need to submit a report on the project displaying their results. The detail of the report that is expected will be discussed in the class in due time.

**Make-up Policy**

There are no make-up exams. If you miss or you know ahead of time that you will miss a scheduled in-term exam you must notify the instructor as soon as possible and provide a documented reason for your absence. If the reason is sufficient to warrant absence from the exam, the weight of the missed in-term exam will be added to the final exam. If you fail to provide appropriate documentation for your absence, you will get zero for the missed exam. It is the discretion of the instructor to decide whether the provided documentation is sufficient to allow you to have your grade adjusted. The policy only applies for one in-term exam. If you miss more than one in-term exams, you’ll be assigned a grade zero regardless of the reason for your absence.

**Honor Code**

It is your responsibility to familiarize yourself with Georgia State Honor Code. The University Policy on Academic Honesty can be found in “On Campus –The Official Student Handbook” under the Code of Conduct (http://www.gsu.edu/~wwwcam/code/academicconduct/index.html). This document establishes clear standards for academic honesty and will be enforced in this course.
Students are expected to follow the Honor Code completely. Please ask the professor if you need any clarification. Any violation of the code will be reported to the authority.

**Courtesy Rules**

1. Turn off your cell phones.
2. Do not use laptops during the class sessions.
3. Do not bring any other reading material except for the material related to this course.
4. Do not engage in any discussions non-related to the course during the duration of the class.

**Student Evaluation of Instructor:**

Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take the time to fill out the online course evaluation.

**Tentative Course Outline**

The following course outline is an approximate schedule of topics that will be covered. Please note that it is subject to change.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading from BKM</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/24/2010</td>
<td>Course Introduction, Review of Time Value of Money</td>
<td></td>
</tr>
<tr>
<td>08/26/2010 – 09/02/2010</td>
<td>Introduction to Portfolio Theory, Risk and Return</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>09/07/2010 – 09/14/2010</td>
<td>Introduction to Asset Allocation, Portfolio Theory and Mean Variance Analysis</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>09/16/2010 (Tue)</td>
<td>Exam 1, Project 1 Due</td>
<td></td>
</tr>
<tr>
<td>09/21/2010</td>
<td>Asset Pricing Models, CAPM and APT</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>Date Range</td>
<td>Topic</td>
<td>Chapter</td>
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</tr>
<tr>
<td>09/23/2010 – 09/30/2010</td>
<td>Equity Valuation</td>
<td>Chapter 13</td>
</tr>
<tr>
<td>10/05/2010 – 10/07/2010</td>
<td>Debt Securities: Bond pricing and bond yields, Term Structure Analysis</td>
<td>Chapter 10</td>
</tr>
<tr>
<td>10/12/2010 – 10/14/2010</td>
<td>Interest rate risk</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>10/19/2010 (Tue)</td>
<td>Exam 2, Project 2 Due</td>
<td></td>
</tr>
<tr>
<td>10/21/2010 – 10/28/2010</td>
<td>Introduction to options, option fundamentals and strategies</td>
<td>Chapter 15</td>
</tr>
<tr>
<td>11/02/2010 – 11/09/2010</td>
<td>Option Valuation</td>
<td>Chapter 16</td>
</tr>
<tr>
<td>11/11/2010 (Thurs)</td>
<td>Exam 3</td>
<td></td>
</tr>
<tr>
<td>11/16/2010-11/18/2010</td>
<td>Futures Markets</td>
<td>Chapter 17</td>
</tr>
<tr>
<td>11/30/2010</td>
<td>Efficient Market</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>12/02/2010</td>
<td>International Investment and Risk Management,Career Project Due Date</td>
<td>Chapter 19</td>
</tr>
</tbody>
</table>

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**Important Dates**

- 08/23/2010 (Mon)       First day of Class
- 09/06/2010 (Mon)       Labor Day Holiday
- 10/08/2010 (Fri)       Full semester midpoint – last day to withdraw
- 11/22/2010 - 11/27/2010 Thanksgiving Holiday
- 12/06/2010 (Mon)       Last day of classes
- 12/07/2010 – 12/14/2010 Final Exam Week
Suggested Learning Objectives for FI 4000

REVIEW
1. Understand the basic principles of finance: Time value of money, present value future value concept, effect of compounding, multiple cash flow problems, annuity, difference between EAR and APR. Solve problems using timeline.

2. Understand the concept of return clearly. Understand the difference between geometric average and arithmetic average return.

3. Understand the concepts and logic behind the formulas clearly

Background and Issues (Ch 1; Section 1.1 and 1.2 pages 2 – 5)
1. Definition of investment
2. Differences between real and financial assets

Financial Instruments (Ch 2; 2.1 – 2.4 pages 23 - 42)
1. Define all types of assets that trade in money and capital markets
2. Know the difference between money and capital markets

Risk and Return (Ch 5)
1. Calculate and understand geometric, arithmetic and dollar weighted rates of return; understand the differences between them
2. Calculate and understand how risk, return and risk premiums are measured
3. Understand the concept of scenario analysis and probability distribution:
   a. Compute expected return, variance and standard deviation of returns using probability distribution.
4. Compute risk and return of portfolios of risky assets and the risk free asset
5. Asset allocation across risky assets and risk free asset: Understand the principle of capital allocation line.

Efficient Diversification (Ch 6)
1. Define and understand systematic risk and unsystematic risk
2. Compute portfolio expected return and standard deviation of return
3. Asset allocation with two risky assets:
   a. Given portfolio weights of the two assets, compute expected return and standard deviation of return of the portfolio.
   b. Given two risky assets calculate the weights of each that produce a given return
c. Compute covariance and correlation coefficient between two risky assets and explain how covariance and correlation affect diversification and why.

d. Given the historical return data, compute mean return, standard deviation, and correlation coefficient and covariance between two risky assets.

e. Construct investment opportunity set and minimum variance portfolio.

4. The optimal risky portfolio with a risk free asset.

5. Single Index Model: Plot security’s excess return as a function of the excess return of the market. (Perform a regression in Excel and interpret the results).

Capitol Asset Pricing (Ch 7)
1. Understand principals and uses of the Capital Asset Pricing Model
2. Determine the risk premium of the market portfolio
3. Understand the meaning and slope of the Security Market Line
4. Understand meaning and uses of beta
5. Know other multi-factor models
6. Overlap and differences between APT and CAPM

Bond Pricing (Ch 10)
1. Calculate bond prices and yield to maturity
2. Calculate accrued interest, flat price, and invoice price.
3. Understand bond price changes relative to time, quality and interest rates
4. Understand bond call provisions, calculate yield to call
5. Calculate forward rates
6. Understand the concept of yield curve.

Bond Portfolio Management (Ch 11)
1. What features of a bond make it more or less volatile and why
2. Calculate and understand duration
3. Immunize a liability stream
4. Understand the concept of convexity

Equity Valuation (Ch13)
1. Know how to value equity securities using DDM, and other quantitative valuation models
2. Understand difference between intrinsic value and market price
3. Calculate security value using FCFF technique.

Efficient Market Hypothesis (Ch 8)
1. Understand why markets and instruments can be shown to be efficient
2. Know three versions of the EMH and their investment implications
3. Understand operating and financial leverage
4. Role of Portfolio managers with passive and active strategies
Options Market (Ch 15)
1. Define and understand put and call contracts
2. Understand and describe option market trading
3. Differences in cash flows for derivatives and equity positions
4. Values of options at expiration
5. Payoff and profit functions and diagrams of call options, put options, and different option strategies

Option Valuation (Ch 16)
1. Understand and identify features of puts and calls that affect value
2. Calculate binominal put/call option prices and Black-Scholes option prices
3. Understand put-call parity relationship

Futures Markets (Ch 17)
1. Determine profit on futures contracts
2. Understand mechanics of futures trading and markets. Understand marking to market.
3. Understand how futures contracts absorb risk for hedgers and difference between hedging and speculating
4. Compute futures prices: spot-futures parity
5. Design arbitrage strategies to exploit mispricing

International Investing (Ch 19)
1. Advantages and disadvantages of international investing
2. Calculate profits on interest rate arbitrage strategies
3. Calculate profit on cross-rate arbitrage
4. Calculate total return considering changes in exchange rates
5. Decompose investment returns