

**Advanced Portfolio Analysis**  
B40.3332  
Fall 2004

Professor Martin J. Gruber  
Office: KMC 9-88  
Phone: 998-0333

Class Meets: Monday 6:00 - 9:00 p.m.  
Office Hours: Monday 1:00 - 5:00 p.m. and at other  
times by appointment

This is a course in the theory and application of portfolio management techniques. In addition to the lectures on the material below the courses will include 3 or 4 lectures by outstanding professionals in the field of portfolio analysis.

### **Course Materials**

1. Elton, Edwin, Martin Gruber, Stephen Brown, and William Goetzmann, Modern Portfolio Theory and Investment Analysis, John Wiley & Sons, Inc. 6<sup>th</sup> edition, 2003 and accompanying computer program, "The Investment Portfolio."
2. Reading package available at the bookstore.
3. Notes package available at the bookstore and/or at Blackboard

All chapters are from Elton, Gruber, Brown, and Goetzmann. Readings are from the reading package and are identified by number and author name.

Numbers in parenthesis indicate the approximate number of half classes which will be spent on each topic.

#### **A. Portfolio Analysis**

- |     |                                    |  |
|-----|------------------------------------|--|
| ( ) | Introduction                       | Chapter 1  |
| (4) | The Basics of Portfolio Theory     |  |
|     | The Two Security Case              | Chapter 4: pp. 44-50                                       |
|     | Generalizing to Multiple Assets    | Chapter 4: pp. 56-67                                       |
|     | The Impact of Correlation          | Chapter 5: pp. 68-84                                       |
|     | Riskless Lending and Borrowing     | Chapter 5: pp. 84-90                                       |
|     | Calculating the Efficient Frontier | Chapter 6  |
| (1) | Selecting from Feasible Portfolios | Skim Chapter 10 and<br>11 with emphasis on<br>Safety First |

- |     |  |                                     |
|-----|--|-------------------------------------|
| (1) | Widening the Selection Universe<br>-- International Diversification  | Chapter 12                          |
| (3) | Simplifying the Portfolio Management Process<br>The Single Index Model<br>Multi-Index Model<br>Recalculating the Efficient Frontier<br>Reading 1 -- Markowitz (Skim) | Chapter 7<br>Chapter 8<br>Chapter 9 |
- B. Model of Relative Prices**
- |     |  |   |
|-----|--|---|
| (3) | The Standard Capital Asset Pricing Model<br>Non Standard Forms of the Capital Asset Pricing Model<br>Test of Capital Asset Pricing Model<br>Arbitrage Pricing Theory | Chapter 13<br>Chapter 14<br>Chapter 15<br>Review Chapter 8,<br>pp. 170-174<br>Read Chapter 16 |
|-----|--|---|
- C. Performance**
- |     |  |            |
|-----|--|------------|
| (1) | Overview   | Chapter 24 |
| (3) | Open End Mutual Funds<br>The Structure of the Industry -- Handout<br>Reading 19: Elton, Gruber, and Blake<br>Performance<br>1. Reading 2: Elton, Gruber, Das, and Hlavka<br>2. Reading 3: Elton, Gruber, and Blake<br>3. Reading 4: Gruber<br>4. Reading 5: Sharpe<br>5. Reading 6: Sharpe<br>6. Reading 7: Modigliani and Modigliani<br>7. Reading 16: Elton, Gruber and Blake<br>8. Reading 8: Statement of Senior Financial Economists Roundtable |            |
| (3) | Other Managed Portfolios<br>Closed End Mutual Funds<br>Reading 9: Elton, Gruber, and Busse<br><br>Commodity Funds<br>Reading 10: Elton, Gruber, and Rentzler<br>Reading 11: Elton, Gruber, and Rentzler<br><br>Hedge Funds<br>Reading 12: Brown  |            |

## Institutional Managers

### Reading 13: Lakonishok, Shleifer, and Vishny

#### (1) Summary and Discussion

#### Grading

Grades will be based primarily on the homework assignments (20%), midterm (30%) and final (50%). Homework assignments are intended to help you understand the material. While the grading distribution will vary slightly according to the quality of the class in general I follow the Department of Finance Guidelines of

A	20-25%
B	55-70%
C and below	10-20%

The date of the midterm exam is November 8, 2004.

The date of the final exam is December 13, 2004.

I will schedule one additional day at the convenience of the class before the final to be available to meet with you as individuals or in groups to discuss the course or answer any questions you have about portfolio management or finance in general.

#### **READINGS**

1. Markowitz, Harry, Foreward to Elton and Gruber Collected Works, MIT Press, 1999 pp. 1-13.
2. Elton, Edwin, Martin Gruber, Sanjiv Das, and Matthew Hlavka, "Efficiency with Costly Information: A Reinterpretation of Evidence from Managed Portfolios," Review of Financial Studies, 1993 pp. 1-22.
3. Elton, Edwin, Martin Gruber, and Christopher Blake, "Survivorship Bias and Mutual Fund Performance," Review of Financial Studies, Winter 1996 pp.1097-1120.
4. Gruber, Martin, "Another Puzzle: The Growth in Actively Managed Mutual Funds," Journal of Finance, July 1996 pp. 783-810.
5. Sharpe, William, "Asset Allocation: Management Style and Performance Measurement," Journal of Portfolio Management, Winter 1992 pp. 1-19.

6. Sharpe, William, "The Sharpe Ratio," Journal of Portfolio Management, Fall 1994 pp. 49-58.
7. Modigliani, Franco, and Leah Modigliani, "Risk-Adjusted Performance," Journal of Portfolio Management, Winter 1995 pp.45-54.
8. "Statement of Financial Economists Roundtable on Risk Disclosure of Mutual Funds," Journal of Financial Engineering, June 1997 pp. 367-373.
9. Elton, Edwin, Martin Gruber, and Jeff Busse, "Do Investors Care About Sentiment?" Journal of Business, October 1998 pp. 1-32.
10. Elton, Edwin, Martin Gruber, and Joel Rentzler, "Professionally Managed, Publicly Traded Commodity Funds," Journal of Business, April 1987 pp. 175-199.
11. Elton, Edwin, Martin Gruber, and Joel Rentzler, "New Public Offerings, Information, and Investor Rationality: The Case of Publicly Offered Commodity Funds," Journal of Business, 1989 pp. 1-13.
12. Brown, Stephen, William Goetzmann, and Roger Ibbotson, "Offshore Hedge Funds: Survival and Performance 1989-1995," NYU Department of Finance Working Paper Series 1998, # FIN-98-011, February 1998 pp. 1-37.
13. Lakonishok, Josef, Andrei Shleifer, and Robert Vishny, "The Structure and Performance of the Money Management Industry," Brookings Papers: Microeconomics, 1992 pp. 339-391.
14. "Value-At-Risk," Harvard Business School, July 15, 1997 pp. 1-11.
15. "Beta Management Company," Harvard Business School, November 17, 1993 pp. 1-5.
16. Elton, Edwin, Martin Gruber, and Christopher Blake, "Incentive Fees and Mutual Funds," Journal of Finance, April 2003, pp. 779-804.

### **Problem Assignments**

#### **Problem Set 1**

- |              |                  |
|--------------|------------------|
| 1. Chapter 4 | Problems 2 and 3 |
| 2. Chapter 5 | Problems 3 and 5 |
| 3. Chapter 6 | Problem 1        |

**Problem Set 2**

1. Chapter 7                      Problems 1 and 2
2. Chapter 8                      Problem 5
3. Chapter 9                      Problems 1 and 2
4. Beta Management Company case in reading packet.

**Problem Set 3**

1. Chapter 10                      Problem 2
2. Cherry Hill Investments

**Problem Set 4**

1. Chapter 12                      Problems 1, 5, 6, and 7
2. Case at the end of Value at Risk notes in reading packet.

**Problem Set 5**

1. Chapter 13                      Problems 1, 2, 4, and 8
2. Chapter 15                      Problem 1
3. Chapter 16                      Problem 1

**Problem Set 6**

1. Chapter 24                      Problems 1, 2, 3, and 4
2. Case marked Mutual Fund Evaluation.

**Problem Set 7**

1. Design the optimum portfolio you would like to hold using the mutual funds from the

financial software. Justify your decision.