University of Michigan Business School

Course Syllabus
Accounting/Finance 725
Applied Financial Analysis and Portfolio Management
Winter 2004

Instructor:

Tyler Shumway
Phone: 763-4129
Fax: 936-8716
Office: D5206
E-Mail: shumway@umich.edu
Home page: http:\www.umich.edu\shumway

Office Hours:

Tuesdays and Wednesdays from 2:00 to 4:00 p.m.
Thursdays from 5:30 to 7:00 p.m.
Whenever you can catch me in my office.
Any other time by appointment.

Course Objective:

This course provides a systematic and applied approach to active portfolio management. The focus of the course is on the active management of a portfolio of equity securities. However, the principles covered are broadly applicable to the active management of any portfolio of financial securities. The course synthesizes three key elements:

(i) The role of the theory and technical skills taught in UMBS accounting and finance courses to active portfolio management;

(ii) Mastery of the most popular and powerful financial technology available to today’s investment professionals; and

(iii) The application of the first two elements above to the management of a real equity portfolio.

The first element is the most important of the three. This is the element that will give you a comparative advantage over most other investment professionals. The skills taught in accounting and investments courses are particularly important. I will assume some knowledge of the material covered in these courses. For those needing a refresher in the material covered in these courses, I have listed the appropriate chapters from the textbooks used in these courses as ‘background reading’ throughout the course outline.
This course’s focus on active portfolio management may seem at odds with the efficient market hypothesis (EMH), covered in the core finance classes. We will adopt a pragmatic perspective and develop a systematic approach to active management, assuming that this is a worthwhile goal. Worthwhile, but certainly not easy. Indeed, it is competition among many sophisticated active investors that makes the EMH a useful first approximation to actual security market behavior. Thus, we will adopt the perspective that successful active portfolio management is difficult, but not impossible. We will also look at empirical evidence bearing on this issue.

**Organizational Details:**

1. **Course Materials:**

   There is no required text for the course. All required readings are listed in the outline below and are available in the ACC/FIN 725 coursepack (available on my website). Required readings should be read in advance of the class for which they are assigned. Additional background readings and recommended readings are listed in the outline and will be made available during the semester. Copies of these readings will be available for loan/photocopy from the Tozzi Center library. Several of the background readings will be from the following texts:


   These two texts have recently been required texts for MBA accounting and investments courses, so you may want to become familiar with their contents.

   Finally, copies of lecture slides, handouts etc. will be made available on my website. My website is at [www.umich.edu/~shumway](http://www.umich.edu/~shumway), and the username that you can use to access restricted materials is f725stud, while the corresponding password is trader9.

2. **Course Structure:**

   This course differs from other courses in that we must work as a team to manage a real portfolio. As a consequence, each of you will act as portfolio managers and will have specific responsibilities. In all, there are 12 different ‘responsibility groups’ with three or four students assigned to each group. The 12 groups are made up of ten ‘economic sector’ groups, an ‘economist/strategist’ group and a ‘sales & trading’ group. Sector managers are responsible for stock selections in their assigned sector. The economist/strategist group will work with the sector managers to keep track of key macroeconomic factors and to manage the sectoral emphasis of the portfolio. The sales and trading group will be responsible for tracking investment performance and portfolio risk, client relations (MBA course), portfolio optimizations and for delivering trade lists to the instructor for execution. All portfolio managers will be responsible for monitoring and evaluating the performance of the other managers.
3. Course Evaluation:

Your grade for the course will be determined as follows:

Sector Overview Report/Presentation 10%
FactSet Quantitative Screening and Backtesting Case 10%
Fundamental Valuation Case 5%
BARRA Risk Analysis Case 10%
BARRA Portfolio Optimization Case 10%
FTS Trading Simulations 5%
Final Exam 20%
Final Sector Report/Presentation 20%
Class Participation 10%

You should work on all the cases and reports in your assigned groups. All cases and reports are due at the beginning of the Week indicated in the course outline. I will provide detailed descriptions of the case and report requirements as the course progresses.

4. Financial Research and Trading Room Hours:

The course meets in the Tozzi Electronic Finance Center. This room contains all of the financial applications and data feeds that we will be using in the course. The Center will also be open for ‘lab hours’ throughout the semester. It will typically be open each weekday from 9.00 a.m. - 8.00 p.m. when it is not scheduled for other events and at selected times at weekend. A schedule of opening hours and events will be placed on the Center website at http://webuser.bus.umich.edu/tradingfloor.

5. Course Outline:

Effective portfolio management requires consideration of four key elements:

1. Forming reasonable return expectations;
2. Controlling risk;
3. Controlling transaction costs; and
4. Controlling and monitoring the investment process.

In this course, we will develop a systematic approach for considering each of these elements and incorporating them into an active portfolio management strategy. Specifically, we will construct and manage a Core Mid-Cap Equity Fund. This Fund will seek improved returns over the S&P MidCap 400 Index by using financial analysis to identify expected residual returns (alphas) in the US equity market. The portfolio will be a ‘core’ fund, with limited active risk (tracking error) and turnover. A tentative course outline follows.
Course Outline:

I. INTRODUCTION

Week 1: January 8
Course Introduction and Sector Assignments

Readings:
  Required:  “Overview of the Investment Management Process” (coursepack)
  “Overview of UMBS Student Managed Fund” (coursepack)
  Background:  BKM Chapters 26 and 27
  Recommended: eSignal Basics (coursepack)
                Bloomberg Cheat Sheets (coursepack)

Cases Due:  None

Week 2: January 15
Sector Overview Presentations

Readings:
  Required:  Relevant Industry Surveys Available at S&P Net Advantage
  Background:  BKM Chapter 17

Cases Due:  Sector Overview Reports

II. FORMING REASONABLE RETURN EXPECTATIONS

Week 3: January 22
Overview of Market Efficiency and Stock Return Prediction Techniques

Readings:
  Required:  “Are Financial Markets Efficient?” (coursepack)
  “What Works on Wall Street”, Chapter 21 (coursepack)
  Background:  BKM Chapters 12 and 13
                PHB Chapter13
  Recommended: “What Works on Wall Street”, by J. P. O’Shaughnessy (Tozzi Library)

Cases Due:  None
Week 4: January 29
Quantitative Screening and Backtesting Techniques

Readings:
Required: Factset Online Assistant – Universal Screening (Tozzi Center)
          Factset Online Assistant – Alpha Testing (Tozzi Center)
Background: Recommended: FactSet “Jump Start” Manual (Tozzi Library)
Cases Due: FactSet Quantitative Screening and Backtesting Case

Week 5: February 5
Fundamental Valuation Techniques

Readings:
Required: “Economic Margin: The Link Between EVA and CFROI” (coursepack)
Background: BKM Chapters 18 and 19
          PHB Chapters 1-12
Recommended: None
Cases Due: Fundamental Valuation Case

III. CONTROLLING RISK

Week 6: February 12
Modeling and Forecasting Risk Using MFMs/Introduction to the BARRA Aegis System

Readings:
Required: The New Morningstar Style Box Methodology (coursepack)
          BARRA US Equity Model Handbook (coursepack)
          BARRA Aegis Portfolio Manager Guide (coursepack)
Background: BKM Chapters 6-11
Recommended: None
Cases Due: None

Week 7: February 19
Portfolio Optimization

Readings:
Required: None
Background: Readings for Week 6 above
Recommended: None
Week 8: March 4
Advanced Portfolio Strategies
(Benchmark Timing, Long/Short Investing, Use of Equity Derivatives)

Readings:
Required:  
- “The Use of Derivatives in Managing Equity Portfolios” (coursepack)
- “Hedge Fund Primer” (coursepack)
- “An Overview of Long-Short Equity Investing” (coursepack)

Background:  BKM Chapters 22, 23
Recommended:  None

Cases Due:  BARRA Portfolio Optimization Case

IV. CONTROLLING TRADING COSTS

Week 9: March 11
Transaction Costs and Taxes

Readings:
Required:  
- “The Market Impact Model” Handout (coursepack)
- BARRA After-Tax Optimization Theory (coursepack)

Background:  BKM Chapter 3
Recommended:  “Tax Externalities of Mutual Funds” (coursepack)

Cases Due:  None (FTS Trading Simulations Take Place During the Week)

Week 10: March 18
Portfolio Maintenance and Performance Evaluation

Readings:
Required:  None

Background:  BKM Chapter 24
BKM Chapter 26
FactSet Online Assistant – Portfolio Analysis (Tozzi Center)

Recommended:  None

Cases Due:  None

Week 11: March 25
Additional Trading Exercises
Readings:
Required: None
Background: None
Recommended: “Order Driven Market Mechanisms” (coursepack)

Cases Due: None (UpTick Trading Simulations Take Place During the Week)

V. IMPLEMENTATION

April 1, 8, 15
Sector Presentations and Stock Voting

Readings:
Required: Reports of Presenting Sectors
Background: None
Recommended: None

Cases Due: Sector Reports for Presenting Sectors