This team-taught course is designed to provide students with an understanding of basic skills used in three disciplines of municipal finance: (1) municipal credit analysis; (2) municipal portfolio management; and (3) municipal derivatives management. Although no prerequisites are prescribed, unless waived, students are required to have completed P11.2144 Debt Finance and Management for Public Organizations or P11.4216 Financial Statement Analysis for Health Care and Not-for-Profit Organizations and also to have acquired competency in basic software programs such as Excel, Word and PowerPoint.

This course is organized and developed in three segments. Part 1 begins with a detailed examination of select sectors of municipal credit analysis. Part 2 provides a thorough introduction to municipal portfolio management. Part 3 centers upon the analysis of the use of municipal derivatives.

Texts and Readings

Municipal Credit Analysis
- National Federation of Municipal Analysts, Recommended Best Practices in Municipal Disclosure, NFMA, 2004

Portfolio Management

**Municipal Derivatives**

**Grading:**

Grades will be developed as follows: (a) 60% of your grade will be based upon completion of a test or assignment prescribed in each course segment: 20% for municipal credit analysis, 20% for municipal portfolio management and 20% for municipal derivatives; and (b) the remaining 40% will be based upon an integrated final project that tests basic skills acquired in each course segment.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Municipal Credit Analysis Project</td>
<td>20%</td>
<td>Feb. 17, 2009</td>
</tr>
<tr>
<td>Municipal Portfolio Management</td>
<td>20%</td>
<td>Mar. 17, 2009</td>
</tr>
<tr>
<td>Municipal Derivatives</td>
<td>20%</td>
<td>Apr. 07, 2009</td>
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<tr>
<td>Final Project</td>
<td>40%</td>
<td>May __, 2009</td>
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<td>Total:</td>
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**Class Schedule and Readings**

Set forth below is a detailed listing of class lectures, topics and corresponding reading assignments, organized for each course segment. In order to actively participate in classroom discussion, these readings are to be completed prior to class.

**Lecture 1 Introduction and General Course Overview**

This initial lecture will consist of a general introduction to the course and an overview of the course materials. Initial reading assignments to be completed are set forth below.

Topics to be covered in this initial class will consist of a variety of issues, including:
- Historical emergence of the municipal market
- Unique role of municipal debt financing within American federal system
- Eligible uses of municipal debt issuance under the Federal Tax Code
- Impact of the Credit Crisis on Municipal Finance and Capital Markets

**Readings:**

<table>
<thead>
<tr>
<th>Section 103 of the Internal Revenue Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabozzi &amp; Feldstein, Handbook</td>
</tr>
<tr>
<td>Richard Briffault</td>
</tr>
<tr>
<td>The Central Place of State and Local Government in American Federalism</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>The Fundamentals of Municipal Bonds</th>
</tr>
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<tbody>
<tr>
<td>Judy Wesalo Temel</td>
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<tr>
<td>Overview of Municipal Market</td>
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<table>
<thead>
<tr>
<th>The Fundamentals of Municipal Bonds</th>
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</thead>
<tbody>
<tr>
<td>Judy Wesalo Temel</td>
</tr>
<tr>
<td>Regulatory and Disclosure Requirements</td>
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<table>
<thead>
<tr>
<th>Fabozzi &amp; Feldstein, Handbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perry Israel; Martin Mauro</td>
</tr>
<tr>
<td>Federal Tax Rules</td>
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</table>

<table>
<thead>
<tr>
<th>The Postwar Quality of State &amp; Local Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>George H. Hempel</td>
</tr>
<tr>
<td>Past Performance (1929-1942)</td>
</tr>
</tbody>
</table>

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**Part 1: Municipal Credit Analysis (Lectures 2, 3, 4 and 5)**

**Instructor:** Gerard J. Lian

The first segment of the course consists of learning how to evaluate credit risk with respect to four sectors of the municipal bond market: (a) Investment Grade Municipal Bonds; (b) Tax-Exempt Corporate Debt; (c) High Yield Municipal Bonds; and (d) Global Municipal Finance. Your grade for this course segment will be based upon a take-home Credit Analysis Project for a credit selected from one of the first three sectors enumerated above which evaluates quantitative and qualitative credit factors based upon published rating criteria extracted from the
list of readings. Performance on this Credit Analysis Project will account for 20% of your final grade.

There are three primary texts for this segment of the course. These are:
- Analysis of Financial Statements (5th Ed) Bernstein & Wild
- The Handbook of Municipal Bonds (Fabozzi & Feldstein, 2008 ed.)
- Public Finance Criteria 2007 (Standard & Poor’s Corporation)

Additional reference will be made to specific publications that consist of a collection of articles from periodicals and rating agency reports on within specific credit sectors relating to Investment Grade Municipal Debt, Corporate IDB Debt, High Yield Municipal Debt and Global Credit Analysis and Infrastructure Finance. You may also wish to refer to Recommended Best Practices in Disclosure downloadable from the NFMA website (http://www.nfma.org/disclosure.php) which distills material credit criteria on a sector-specific basis into useful analytical frameworks for virtually all of municipal credit sectors.

Lecture 2    Investment Grade Municipal Credit Analysis

This lecture will focus upon the credit analysis of a representative sample of investment grade municipal bonds. Topics to be covered in this class include:

1. Methodology and Framework for Analyzing Municipal Bonds
2. Credit Analysis of Specific Sectors
   - COPs and Appropriation Debt
   - Public Power Bonds
   - Airport Bonds
   - Single Family Housing Bonds

<table>
<thead>
<tr>
<th>Readings:</th>
<th>Authors/Handbook</th>
<th>Credit Analysis Area</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Fundamentals of Municipal Bonds</td>
<td>Judy Wesalo Temel</td>
<td>Credit Analysis</td>
<td>Ch. 7, pgs. 158-190</td>
</tr>
<tr>
<td>Public Finance Criteria 2007</td>
<td>S&amp;P</td>
<td>Appropriation-Backed Bonds</td>
<td>Pgs. 103-106</td>
</tr>
<tr>
<td>Fabozzi &amp; Feldstein, Handbook</td>
<td>Gary Krellenstein</td>
<td>Tax-Exempt Electric Utility Debt</td>
<td>Ch. 55, pgs. 925-939</td>
</tr>
<tr>
<td>Fabozzi &amp; Feldstein, Handbook</td>
<td>Oliver &amp; Clements</td>
<td>How to Analyze Airport Bonds</td>
<td>Ch. 50, pgs. 813-818</td>
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<tr>
<td>Public Finance Criteria 2007</td>
<td>S&amp;P</td>
<td>Airport Revenue Bonds</td>
<td>Pgs. 131 - 135</td>
</tr>
</tbody>
</table>
Lecture 3  
**Analysis of Tax-Exempt Corporate Debt**

This lecture will focus upon analyzing credit quality for various types of corporate-backed debt. Credits and topics to be covered in this class include:

1. Investor-Owned Utilities
2. Project Financings
3. Exempt Facility Corporate Debt
4. A Quick Look at Bond Insurers

<table>
<thead>
<tr>
<th>Readings:</th>
<th></th>
<th>Quick review of key corporate financial ratios: liquidity, capital structure annual debt service and earnings coverage</th>
<th>Pgs. 118–126; 179-186; 198-200; 205-221</th>
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<tbody>
<tr>
<td>Analysis of Financial Statements</td>
<td>Bernstein &amp; Wild</td>
<td>Rating Approach to Project Finance (8-12-04)</td>
<td>Pgs. 1-12</td>
</tr>
<tr>
<td>Fitch Criteria Report</td>
<td></td>
<td>PCR, IDB and Conduit Financing</td>
<td>Ch. 51, pgs. 1041 -1048</td>
</tr>
<tr>
<td>Fabozzi &amp; Feldstein, Handbook</td>
<td>Gary Krellenstein</td>
<td>Corporate Rating Methodology (6-13-06)</td>
<td>Pgs 1-7</td>
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<tr>
<td>Fitch Criteria Report</td>
<td></td>
<td>Cash Flow Measures In Corporate Analysis (10-12-05)</td>
<td>Pgs. 1-11</td>
</tr>
<tr>
<td>Fitch Criteria Report</td>
<td></td>
<td>Credit Rating Guidelines for Regulated Utilities (7-31-07)</td>
<td>Pgs. 1-11</td>
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</tbody>
</table>
Lecture 4  **Analysis of High Yield Debt**

This lecture will focus upon evaluating credit risk and relative value in the municipal high yield market. There will be at least one (1) Guest Lecturer for this credit segment. Credit sectors and topics to be covered include:

1. MMD Spreads in the Municipal Market
2. Yield and Return Differentiation in High Yield Sector
3. Leading High Yield Credit Sectors
   a. Continuing Care Retirement Communities
   b. Charter Schools
   c. Land Secured Debt

<table>
<thead>
<tr>
<th>Readings:</th>
<th>Rating Guidelines for Non-profit CCRCs (10-27-98)</th>
<th>Pgs. 1-20</th>
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<tbody>
<tr>
<td>Fitch Criteria Report</td>
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<tr>
<td>Public Finance Criteria 2007</td>
<td>S&amp;P Land Secured Debt</td>
<td>Pgs. 78-82</td>
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Lecture 5  **New Frontiers in Credit Analysis**

The final lecture on credit quality will focus on new developments in municipal credit analysis in terms of the globalization of municipal debt financing. There will be two (2) Guest Lecturers for this credit segment. New Frontiers in credit analysis are emerging in three areas:

1. Infrastructure Assets
2. Public Private Partnerships
3. Global Public Finance

<table>
<thead>
<tr>
<th>Readings:</th>
<th>US Toll Road Privatizations: Seeking the Right Balance</th>
<th>Pgs. 1 - 10</th>
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<tbody>
<tr>
<td>Fitch Criteria Report</td>
<td>Cherian George</td>
<td></td>
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<tr>
<td>Fitch Criteria Report</td>
<td>Cherian George</td>
<td>Global Toll Road Rating Guidelines</td>
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<tr>
<td><strong>Optional Readings:</strong></td>
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<tr>
<td>Fitch Criteria Report</td>
<td></td>
<td>National Ratings Methodology (12-18-06)</td>
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**Part 2: Municipal Portfolio Management (Lectures 6, 7, 8 and 9)**

**Instructor:** Joseph R. Arcieri

The second segment of the course focuses upon municipal portfolio management. This group of lectures will discuss and consider: (a) an overview of municipal portfolio management; (b) risk parameters and diversification; (c) the investment process and basic portfolio construction; and (d) different measures of portfolio performance. Your grade for this course segment will be based upon
completion of a portfolio management exercise which will account for 20% of your final grade.

There are various assigned readings from two textbooks for this segment of the course. (Both books are on reserve in the library.) These are:


Additional reference will be made to several websites. These include:

- Municipal Securities Rulemaking Board (www.msrb.org)
- Securities Industry and Financial Markets Association (www.investinginbonds.com)
- Standard & Poor’s Municipal Indices (www.kennyweb.com)
- Municipal Market Advisors (www.mma/research.com)
- Vanguard (www.vanguard.com)
- Investopedia (www.investopedia.com)
- Nuveen (www.nuveen.com)
- Securities & Exchange Commission (www.sec.gov/investor/pubs/inwsmf.htm)
- ETF Connect (www.etfconnect.com)

Lecture 6 An Overview of Municipal Portfolio Management

1. Portfolio Management Defined
   a. The Investment Environment
   b. Real Assets versus Financial Assets
   c. Markets and instruments

2. Municipal Securities
   a. Unique characteristics

3. Types of Municipal Bond Portfolios
   a. Retail
   b. Institutional

4. Investment Objectives
   a. Tax-Free Income
   b. Preservation of Capital
   c. Total Return
5. Bond Structure, Pricing and Math  
   a. Bond characteristics  
   b. How Bond Prices and Yields are determined  
   c. Calculating Yield (current, coupon, yield to worst)  
6. Price Transparency  
   a. Rule G-14 Real Time Transaction Reporting  
   b. SIFMA (www.investinginbonds.com)  

<table>
<thead>
<tr>
<th>Readings:</th>
<th>Judy Wesalo Temel</th>
<th>Ch. 2, pgs. 21-33 Ch. 6, pgs. 126-135 &amp; 149-158</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Municipal Bonds</td>
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<tr>
<td>Investopedia - Tutorials</td>
<td>Bond Basics</td>
<td>Section 3</td>
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<td></td>
<td>Debt Basics</td>
<td>Section 4</td>
</tr>
<tr>
<td></td>
<td>Bond Analysis</td>
<td>Section 3 &amp; 4</td>
</tr>
<tr>
<td>SEC – online publication</td>
<td>Introduction to Mutual Funds</td>
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Lecture 7  **Risk Parameters and Diversification**

1. Risks in Fixed Income Investing  
   a. Credit Risk  
      - Bond Insurance  
      - High Yield  
   b. Market/Interest Rate Risk  
      - Interest Rate Forecasting  
      - Term Structure of interest rates  
      - Changes in the Yield Curve  
      - Normal or positive yield curve  
      - Inverted or negative yield curve  
   c. Relative Value (Inter and Intra Market)  
      - Municipals versus Treasuries  
      - Tax Reform  
      - State Markets
d. Other Risks
   - Reinvestment
   - Liquidity
   - Call

2. Measuring Interest Rate Sensitivity
   a. Duration
      - Modified vs. Effective
   b. Convexity
   c. Beta

3. Limiting Risk
   a. Portfolio Diversification
      - Credit quality
      - Sector
      - Geographic
      - Maturity
   b. Investment Guidelines and Regulations
   c. Other tools

**Readings:**

<table>
<thead>
<tr>
<th>Municipal Bond Portfolio Management</th>
<th>Fabozzi et. al.</th>
<th>Ch. 2 pgs. 26 - 31 Ch 7 pgs. 96-109</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investopedia</td>
<td>Adv. Bond Analysis</td>
<td>Sections 5 to 9</td>
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</tbody>
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**Lecture 8  The Investment Process / Constructing a Portfolio**

1. Bottom Up versus Top Down Portfolio Construction
   a. Guidelines and Objectives
   b. Benchmarks and performance
   c. Portfolio Composition
   d. Risk Control and Measurement

2. Investment Strategies
   a. Traditional
      - Buy and Hold
      - Bullets and Barbells
      - Ladders
b. Alternative
   - Hedging

b. Alternative
   - Hedging

c. Active vs. Passive Bond Management
   - Swaps

3. Building Model Portfolios
   a. Investment Grade Portfolios
      - Intermediate Maturity
      - Long-Term Maturity
      - State Specific

   b. High Yield Portfolios

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<thead>
<tr>
<th>Readings:</th>
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<tbody>
<tr>
<td>Fundamentals of Municipal Bonds</td>
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<tr>
<td>Nuveen</td>
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Lecture 9  **Performance Measurements**

1. Measuring Total Return
2. Benchmarks / Indices
3. Peer Rankings
   a. Lipper
   b. Morningstar
4. Compliance and Regulations
5. Final Thoughts
   a. Individual Bonds vs. Bond Funds
   b. ETF’s
   c. Portfolio Management: Art vs. Science
6. Review Portfolio Management Project

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<table>
<thead>
<tr>
<th>Readings:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETF Connect Education Center</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Municipal Bond Portfolio Management</td>
</tr>
</tbody>
</table>
Part 3: Municipal Derivatives (Lectures 10, 11, 12 and 13)

Instructor: Jerrold H. Abrahams

The third segment of the course focuses upon municipal derivatives management. This group of lectures will discuss and consider: (a) an overview of the derivatives market; (b) a detailed examination of derivative instruments in the public sector; (c) a review of common interest rate swap structure; and (d) an in-depth profile of derivatives origination and management in the municipal market. Your grade for this course segment will be based upon completion of a derivatives project/assignment or exercise(s) which will account for 20% of your final grade.

There are two primary texts and others assigned readings for this segment of the course. These are:

- Derivatives in the Public Sector (Published by Citi)
- Understanding Swaps (Marshal and Kapner) Published by J. Wiley & Sons

Lecture 10 An Overview of the Derivatives Market

1. Types of Derivatives Instruments
   a. Definition of a Swap
   b. Why does such a thing exist
   c. How is it used
      1. Primary Market
      2. Secondary Market, investment side
      3. Other uses

2. Interest Rate Swaps

3. Other Types of Swaps
   a. Commodity
   b. Credit
   c. Currency

4. Common Municipal Derivative Structures
   a. BMA Swaps
   b. Libor Swaps
   c. Forwards and Rate Locks
   d. Carry Trades
5. Interest rate Derivative Transaction Structures
   a. Floating-vs-Fixed
      1. Synthetic fixed rate
      2. Description
      3. Application – how it is used
      4. Risks and benefits
   b. Fixed-vs-Floating Swaps
      1. Synthetic floating – Carry trade
      2. Description
      3. Application – how it is used
      4. Risks and benefits

<table>
<thead>
<tr>
<th>Readings:</th>
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</thead>
<tbody>
<tr>
<td>Fundamentals of Municipal Bonds</td>
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<tr>
<td>Marshall/Kapner</td>
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<td>DIPS</td>
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Lecture 11  Derivatives in the Public Sector

c. Basis Swaps
   1. Tax Risk
   2. Description
   3. Application – how it is used
   4. Risks and benefits
d. Swaptions
   1. Refundings – limitations of advance refunding, up-front money
   2. Description
   3. Application – how it is used
   4. Risks and benefits
e. Options, Caps and Floors
   1. Interest rate risk mitigation
   2. Description
   3. Application – how it is used
   4. Risks and benefits
Lecture 12  **Elements of Interest Rate Swap Structure**

Review common interest rate swap structure
1. Construction of Swap Curve
2. Risk and Reward
3. Benefits
4. Risks
   i. Credit Risk
   ii. Tax Risk
   iii. Basis Risk

Lecture 13  **Profile of Municipal Derivatives Market**

1. Market Participants
   a. Dealers and Desks
   b. Banker and Originators
   c. Issuers
   d. Insurers
   e. Attorneys
   f. Back-Office/Legal and Credit
2. Size of market
3. Procurement Approaches
   a. Negotiated versus Competitive
4. Swap documentation
5. Recent developments
   a. Issuer downgrades
   b. Jefferson County
6. A typical swap from A to Z
   a. Case Studies
   b. What would you do?

<table>
<thead>
<tr>
<th>Readings:</th>
</tr>
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<tbody>
<tr>
<td>Marshall/Kapner</td>
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</tbody>
</table>

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Lecture 14 Recap, Conclusion and Closing Remarks

1. Summary of Credit Risk Analysis
   - Review of Key Analytical Criteria
   - Future trends and issues
   - Final thoughts and observations

2. Summary of Municipal Portfolio Management
   - Review of Key Portfolio Points
   - Future trends and issues
   - Final thoughts and observations

3. Summary of Municipal Derivatives
   - Review of Key Derivatives Points
   - Future trends and issues
   - Final thoughts and observations

4. Discussion of Final Project