Marquette University College of Business Administration Department of Finance

FINA 189 Fixed Income Securities Syllabus Fall 2007

M W 2:25 p.m. – 3:40 p.m. 388 Straz Hall

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Office Hours: MWF 10:30 – 12:00, 1:00 - 2:00 and by appointment

Course description: FINA 189 (Fixed Income Securities) focuses on securities (mainly bonds) that promise a fixed income stream and all related securities whose valuation are influenced by interest rates. This course is focused on the concepts and tools that are useful to managers and investors who want to use these securities, whether for investing, hedging, market-making, or speculating. While the cash flows of fixed income securities are contractually specified, which makes the payoffs relatively easy to quantify, the subtleties of interest rate movements and credit risk make the valuation of bonds particularly challenging. This course requires a moderate level of quantitative skill. (3 credits). *Prerequisites FINA 180*.

Course Objectives: The primary objective of the course is to provide students with a solid background in fixed income securities. Upon completion of the course the student should posses the ability to demonstrate a thorough working knowledge of the analysis of fixed income securities, including basic characteristics of bonds in alternative sectors, valuation tools, and the factors that influence bond yields. The student should also be able to estimate risk and returns for fixed income investments, analyze fixed income securities with unique features, and value fixed income investments with embedded options. The material presented in this course should enable the student to pass the fixed income securities portion of Level I of the Chartered Financial Analysis (CFA®) exam.

Fixed income securities have long been acknowledged to be an integral part of a balanced portfolio management strategy. In the 2000's, fixed income investing has been receiving additional attention as a potential source of portfolio excess return (called 'alpha'). In fact, the emphasis on bonds being a source of excess returns has elevated their status to the same level as equity investments. Increased uncertainty in the public equity markets coupled with lower expected future returns has driven an interest in evaluating the role of various assets within the portfolio and in generating alpha from all

possible sources -- and fixed income securities have not been overlooked by investment managers in this endeavor. The topic areas of highest interest in fixed income investing include: credit risk management, emerging market debt, convertibles, derivatives, the influence of hedge funds and foreign investors in the U.S. bond market, Treasury Inflation-Indexed Securities (TIPS), structured debt offerings, and foreign currency fluctuations. Throughout the course, emphasis will be placed on linking the theoretical and practical aspects of fixed income investing.

Required Text:

Fixed Income Analysis, 2nd Edition, Frank J. Fabozzi, ISBN: 978-0-470-05221-1, Wiley Publishing, Hardcover, 768 pages, January 2007

Fixed Income Analysis, Workbook, 2nd Edition, Frank J. Fabozzi, ISBN: 978-0-470-06919-6, Paperback, 343 pages, January 2007.

Grading Policy:

1. ACADEMIC DISHONESTY – Marquette University Policy

It is not feasible to attempt to develop a list of all conceivable examples of academic dishonesty, but it may be helpful to list a few and to note that they all involve an attempt to deceive, to distort perceptions of reality, to gain a record of academic accomplishment greater than earned. All who are parties to the deceit are involved in academic dishonesty. Most acts of academic dishonesty involve cheating on examinations or reports in one way or another, improperly obtaining examination questions, plagiarism, forgery, falsification of records or impersonation of a candidate taking an examination.

Students who engage in academic dishonesty, whenever that may be, shall be subject to appropriate university penalties. Penalties ranging up to an F in the course in which the dishonesty occurs can be imposed by the dean of the college or school in which the course is offered. Additional penalties, if they are warranted, ranging up to expulsion from the university, can be imposed by the dean of the college or school in which the affected student is enrolled. If an appeal against the imposition of a penalty for academic dishonesty is taken beyond the college or school in which it was imposed, it should be directed to the Office of the Provost.

You should not represent material from secondary sources as your own in any reports or papers, i.e., plagiarize material from secondary sources. Cheating on the exams will not be tolerated. Cheating is defined as (but not limited to): use of unauthorized materials during exams; looking at, copying or otherwise colluding with anyone during the exam; copying test questions; and removal of the exam. Anyone engaging in the above activities will automatically receive an "F" in the course and the case will be referred to the department Chairperson for further action.

2. POINT DISTRIBUTION

Exam I	100
Exam II	125
Final Exam	100
Project	100
Attendance/Homework (in-class discussion)	75
Total	500 points

3. COURSE LEARNING OBJECTIVES LINKED TO COLLEGE ASSESSMENT GOALS

Goal 1: Possess effective written and oral communication skills

Objectives:

a. As a part of the required course work, you will be making class presentations, individually and as part of a group

Goal 2: Be knowledgeable of the global business environment

Objectives:

a. Articulate important characteristics of the global fixed income market and the ramification of international investing

Goal 3: Be knowledgeable of the local business environment

Objectives:

a. Interact knowledgeably and effectively with local investment professionals

Goal 4: Possess the ability to work as a team member and leader

Objectives:

a. Effectively perform multiple roles in a team context to complete a project

Goal 5: Possess critical thinking skills

Objectives:

a. Write a clear and succinct credit analysis of a business

Goal 6: Possess an ethical understanding and perspective

Objectives:

a. Know and follow professional standards of conduct (Chartered Financial Analysts Code of Ethics)

4. GRADES

Letter Grade	Percentage
A	>93.0%
AB	89.0%
В	83.0%
BC	79.0%
C	73.0%
CD	67.0%
D	60.0%
F	<60.0%

5. COURSE SCHEDULE

Session	Date	Торіс
1	Monday, 8/27/07	Introduction and overview of course. Discussion of macro-economic outlook and relation to fixed income securities valuation. Presentation of Chartered Financial Analysts Code of Ethics and Standards of Practice. Readings: Chapter 1, text.
2	Wednesday, 8/29/07	Outside Speakers: Dan Tranchita and Jay Schwister (Baird) Chapter 1. "Features of Debt Securities" lecture. Key learning outcomes. The student should be able to: a) explain the purposes of a bond's indenture, and describe affirmative and negative covenants; b) describe the basic features of a bond (e.g., maturity, par value, coupon rate, provisions for redeeming bonds, currency denomination, options granted to the issuer or investor), the various coupon rate structures (e.g., zero-coupon bonds, step-up notes, deferred coupon bonds, floating-rate securities), the structure of floating-rate securities (i.e., the coupon formula, caps and floors), and define accrued interest, full price, and clean price; c) explain the provisions for early retirement of debt, including call and refunding provisions, prepayment options, and sinking fund provisions, differentiate between a regular redemption price and a special redemption price and explain the importance of options embedded in a bond issue, and indicate whether such options benefit the issuer or the bondholder; d) describe methods used by institutional investors in the bond market to finance the purchase of a security (i.e., margin buying and repurchase agreements). Readings: Chapter 1, text. Assignment: Workbook, p 5-7, be prepared to discuss in class the solutions to the problems (1-4,8,10).
3	Wednesday,	Chapter 2. "Risks Associated with Investing in Bonds" lecture.

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	9/5/07	Key learning outcomes. The student should be able to: a) explain the risks associated with investing in bonds (e.g., interest rate risk, yield curve risk, call and prepayment risk, reinvestment risk, credit risk, liquidity risk, exchange-rate risk, inflation risk, volatility risk, and event risk); b) identify the relationship among a bond's coupon rate, the yield required by the market, and the bond's price relative to par value (i.e., discount, premium, or equal to par); c) explain how features of a bond (e.g., maturity, coupon, and embedded options) affect the bond's interest rate risk; d) identify the relationship among the price of a callable bond, the price of an option-free bond, and the price of the embedded call option; and e) explain the interest rate risk of a floating-rate security and why such a security's price may differ from par value. Readings: Chapter 2, text.
4	Monday, 9/10/07	Chapter 2. "Risks Associated with Investing in Bonds" lecture (continued). Key learning outcomes. The student should be able to: f) compute and interpret the duration of a bond, given the bond's change in price when interest rates change, the approximate percentage price change of a bond, given the bond's duration, and the approximate new price of a bond, given the bond's duration and new yield level, explain why duration does not account for yield curve risk for a portfolio of bonds, and explain how the yield level impacts the interest rate risk of a bond; g) explain the disadvantages of a callable or prepayable security to an investor; h) identify the factors that affect the reinvestment risk of a security and explain why prepayable amortizing securities expose investors to greater reinvestment risk than non-amortizing securities; i) describe the various forms of credit risk (i.e., default risk, credit spread risk, downgrade risk) and describe the meaning and role of credit ratings; j) explain why liquidity risk might be important to investors even if they expect to hold a security to the maturity date; k) describe the exchange rate risk an investor faces when a bond makes payments in a foreign currency; l) describe inflation risk and explain why it exists; m) explain how yield volatility affects the price of a bond with an embedded option and how changes in volatility affect the value of a callable bond and a putable bond; n) describe the various forms of event risk (e.g., natural catastrophe, corporate takeover/restructuring and regulatory risk) and the components of sovereign risk. Reading: Chapter 2, text. Assignment: Workbook, p. 11-14, be prepared to discuss in class the solutions to the problems (1-4,12-13,19-20).
5	Wednesday, 9/12/07	Chapter 3. "Overview of Bond Sectors and Instruments" lecture. Key learning outcomes. The student should be able to: a) describe the different types of international bonds (e.g., Eurobonds, global bonds, sovereign debt); b) describe the types of securities issued by the U.S. Department of the Treasury (e.g. bills, notes, bonds, and inflation protection securities), differentiate between on-the-run and off-the-run Treasury securities, discuss how stripped Treasury securities are created, and distinguish between coupon strips and principal strips; c) describe a mortgage-backed security, and explain the cash flows for a mortgage-

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		backed security, define prepayments, and explain prepayment risk; d) describe the types and characteristics of securities issued by federal agencies (including mortgage pass-throughs and collateralized mortgage obligations); e) state the motivation for creating a collateralized mortgage obligation, describe the types of securities issued by municipalities in the United States, and distinguish between tax-backed debt and revenue bonds; f) describe insured bonds and pre-refunded bonds; g) summarize the bankruptcy process and bondholder rights, explain the factors considered by rating agencies in assigning a credit rating to a corporate debt instrument, and describe secured debt, unsecured debt, and credit enhancements for corporate bonds. Reading: Chapter 3, text.
6	Monday, 9/17/07	Chapter 3. "Overview of Bond Sectors and Instruments" lecture (continued). Key learning outcomes. The student should be able to: h) distinguish between a corporate bond and a medium-term note; i) describe a structured note, explain the motivation for their issuance by corporations, describe commercial paper, and distinguish between directly- placed paper and dealer-placed paper, and describe the salient features, uses and limitations of bank obligations (negotiable CDs and bankers acceptances); j) define an asset-backed security, describe the role of a special purpose vehicle in an asset-backed securities transaction, state the motivation for a corporation to issue an asset-backed security, and describe the types of external credit enhancements for asset-backed securities; k) describe collateralized debt obligations; l) contrast the structures of the primary and secondary markets in bonds. Reading: Chapter 3, text. Assignment: Workbook, p. 19-21, be prepared to discuss in class the solutions to the problems (1-2,5,7,10,18,25).
7	Wednesday, 9/19/07	Chapter 4. "Understanding Yield Spreads" lecture. Key learning outcomes. The student should be able to: a) identify the interest rate policy tools available to a central bank (such as the U.S. Federal Reserve or the European Central Bank); b) describe a yield curve and the different yield curve shapes observed and explain the basic theories of the term structure of interest rates (i.e., pure expectations theory, liquidity preference theory, and market segmentation theory) and describe the implications of each theory for the shape of the yield curve; explain the different types of yield spread measures (e.g., absolute yield spread, relative yield spread, yield ratio), and compute yield spread measures given the yields for two securities; c) explain why investors may find a relative yield spread to be a better measure of yield spread than the absolute yield spread, distinguish between an intermarket and intramarket sector spread, and describe a credit spread and discuss the suggested relationship between credit spreads and the economic well being of the economy. Reading: Chapter 4, text. Assignment: Be prepared to discuss in class the solutions to the practice questions and the end of the chapter questions.

8	Monday, 9/24/07	Chapter 4. "Understanding Yield Spreads" lecture (continued). Key learning outcomes. The student should be able to: d) identify how embedded options affect yield spreads; e) explain how the liquidity of an issue affects its yield spread relative to Treasury securities and relative to other issues that are comparable in all other ways except for liquidity and describe the relationships that are argued to exist among the size of an issue, liquidity, and yield spread; f) compute the after-tax yield of a taxable security and the tax-equivalent yield of a tax-exempt security; g) define LIBOR and why it is an important measure to funded investors who borrow short-term. Reading: Chapter 4, text. Assignment: Workbook, p. 25-28, be prepared to discuss in class the solutions to the problems (6-8,12,14,16).
9	Wednesday, 9/26/07	Outside Speaker: Tim Dunbar (Principal Group)
10	Monday, 10/1/07	Exam I. Chapters 1-4. 100 points.
11	Wednesday, 10/3/07	Return exam. Chapter 5. "Introduction to the Valuation of Debt Securities" lecture. Key learning outcomes. The student should be able to: a) describe the fundamental principles of bond valuation; b) identify the types of bonds for which estimating the expected cash flows is difficult, and explain the problems encountered when estimating the cash flows for these bonds. Key learning outcomes. The student should be able to: c) determine the appropriate interest rates for valuing a bond's cash flows, compute the value of a bond, given the expected annual or semiannual cash flows and the appropriate single (constant) or multiple (arbitrage-free rate curve) discount rates, explain how the value of a bond changes if the discount rate increases or decreases, and compute the change in value that is attributable to the rate change, and explain how the price of a bond changes as the bond approaches its maturity date, and compute the change in value that is attributable to the passage of time; d) compute the value of a zero-coupon bond, explain the arbitrage-free valuation approach and the market process that forces the price of a bond toward its arbitrage-free value, determine whether a bond is undervalued or overvalued, given the bond's cash flows, appropriate spot rates or yield to maturity, and current market price, explain how a dealer could generate an arbitrage profit. Reading: Chapter 5, text. Assignment: Workbook, p. 31-32, be prepared to discuss in class the solutions to the problems (1-11). Homework 1 assigned (25 points).
12	Monday, 10/8/07	Chapter 6. "Yield Measures, Spot Rates, and Forward Rates" lecture. Key learning outcomes. The student should be able to: a) explain the sources of return from investing in a bond (i.e., coupon interest payments, capital gain/loss, reinvestment income); b) compute the traditional yield measures for fixed-rate bonds (e.g., current yield, yield to maturity, yield to first call, yield to first par call date, yield to refunding, yield to put, yield

		to worst, cash flow yield) and explain the assumptions underlying traditional yield measures and the limitations of the traditional yield
		measures. Reading: Chapter 6, text.
13	Wednesday, 10/10/07	Chapter 6. "Yield Measures, Spot Rates, and Forward Rates" lecture (continued). Key learning outcomes. The student should be able to: c) explain the importance of reinvestment income in generating the yield computed at the time of purchase, and calculate the amount of income required to generate that yield and discuss the factors that affect reinvestment risk; d) compute the bond equivalent yield of an annual-pay bond, and compute the annual-pay yield of a semiannual-pay bond; e) compute the theoretical Treasury spot rate curve, using the method of bootstrapping and given the Treasury par yield curve and compute the value of a bond using spot rates; f) explain the limitations of the nominal spread and differentiate among the nominal spread, the zero-volatility spread, and the option-adjusted spread for a bond with an embedded option, and explain the option cost; g) explain a forward rate, and compute the value of a bond using forward rates, explain and illustrate the relationship between short-term forward rates and spot rates, and compute spot rates given forward rates, and forward rates given spot rates. Reading: Chapter 6, text. Assignment: Workbook, p. 35-40, be prepared to discuss in class the solutions to the problems (2-4,7,9-11,1618-19,21).). Homework 2 assigned (25 points).
14	Monday, 10/15/07	Homework 1 due (25 points). Chapter 7. "Introduction to the Measurement of Interest Rate Risk" lecture. Key learning outcomes. The student should be able to: a) distinguish between the full valuation approach (the scenario analysis approach) and the duration/convexity approach for measuring interest rate risk, and explain the advantage of using the full valuation approach; b) compute the interest rate risk exposure of a bond position or of a bond portfolio, given a change in interest rates; c) demonstrate the price volatility characteristics for option-free bonds when interest rates change (including the concept of "positive convexity"), the price volatility characteristics of callable bonds and prepayable securities when interest rates change (including the concept of "negative convexity"), and describe the price volatility characteristics of putable bonds. Reading: Chapter 7, text.
15	Wednesday, 10/16/07	Chapter 7. "Introduction to the Measurement of Interest Rate Risk" lecture (continued). Key learning outcomes. The student should be able to: d) compute the effective duration of a bond, given information about how the bond's price will increase and decrease for given changes in interest rates, and compute the approximate percentage price change for a bond, given the bond's effective duration and a specified change in yield; e) distinguish among the alternative definitions of duration (modified, effective or option-adjusted, and Macaulay), explain why effective duration is the most appropriate measure of interest rate risk for bonds with embedded options, describe why duration is best interpreted as a measure

	Mondoy	of a bond's or portfolio's sensitivity to changes in interest rates, compute the duration of a portfolio, given the duration of the bonds comprising the portfolio, and discuss the limitations of portfolio duration; f) discuss the convexity measure of a bond and estimate a bond's percentage price change, given the bond's duration and convexity and a specified change in interest rates; g) differentiate between modified convexity and effective convexity; h) compute the price value of a basis point (PVBP), and explain its relationship to duration. Reading: Chapter 7, text. Assignment: Workbook, p. 44-48, be prepared to discuss in class the solutions to the problems(10-16).
16	Monday, 10/22/07	Homework 2 due. 25 points. Catch-up and review for Exam 2.
17	Wednesday, 10/24/07	Exam 2. Chapters 5 - 7. 125 points.
18	Monday, 10/29/07	Outside Speaker: Stark Investments Return exam and begin Chapter 15. Project assigned (credit analysis).
19	Wednesday, 10/31/07	Chapter 15. "General Principles of Credit Analysis" lecture. Key learning outcomes. The student should be able to: a) distinguish among default risk, credit spread risk, and downgrade risk; b) explain how credit analysis encompasses assessing the borrower's character (including the quality of management) and capacity to repay (including sources of liquidity), and the issue's underlying collateral and covenants; c) compute the key ratios used by credit analysts to assess the ability of a company to satisfy its debt obligations, and explain the limitations of these ratios; d) evaluate the capacity of an issuer of a corporate bond to pay interest and repay principal, given such data as key financial ratios for the issuer and the industry; e) discuss why and how cash flow from operations is used to assess the ability of an issuer to service its debt obligations and to assess the financial flexibility of a company; f) describe the various covenants and discuss their importance in assessing credit risk. Reading: Chapter 15 and Appendix.
20	Monday, 11/5/07	Chapter 15. "General Principles of Credit Analysis" lecture (continued). Key learning outcomes. The student should be able to: g) explain the typical elements of the debt structure of a high-yield issuer, the interrelationships among these elements, and the impact of these elements on the risk position of the lender; h) explain the importance of the corporate structure of a high-yield issuer that has a holding company; i) explain why some investors advocate using an equity perspective when analyzing the creditworthiness of high-yield issues; j) discuss the factors considered by rating agencies in rating asset-backed securities (i.e., collateral credit quality, seller/servicer quality, cash flow stress and payment structure, and legal structure); k) explain how the creditworthiness of municipal bonds is assessed, and contrast the analysis of tax-backed debt with the analysis of revenue obligations; l) discuss the key economic and political risks considered by Standard & Poor's in assigning sovereign ratings; m) explain why two ratings are assigned to

		each national government, and discuss the key factors emphasized by Standard & Poor's for each rating; n) contrast the credit analysis required for corporate bonds to that required for 1) asset-backed securities, 2) municipal securities, and 3) sovereign debt. Reading: Chapter 15 and Appendix. Assignment: Be prepared to discuss in class the solutions to the practice questions and the end of the chapter questions, including the Case presented in the Appendix.
21	Wednesday, 11/7/07	Outside speaker. (Credit Analysis).
22	Monday, 11/12/07	Chapter 8. "Term Structure and Volatility of Interest Rates" lecture. Key learning outcomes. The student should be able to: a) illustrate and explain parallel and nonparallel shifts in the yield curve, a yield curve twist, and a change in the curvature of the yield curve (i.e., a butterfly shift); b) describe the factors that have been observed to drive U.S. Treasury security returns, and explain the importance of each factor; c) explain the various universes of Treasury securities that are used to construct the theoretical spot rate curve, and discuss their advantages and disadvantages; d) explain the swap rate curve (LIBOR curve) and discuss the reasons that market participants have increasingly used the swap rate curve as a benchmark rather than a government bond yield curve; e) explain the various theories of the term structure of interest rates (i.e., pure expectations, liquidity, and preferred habitat) and the implications of each theory for the shape of the yield curve; f) compute and interpret the yield curve risk of a security or a portfolio, using key rate duration; g) compute and interpret yield volatility, given historical yields; h) differentiate between historical yield volatility and implied yield volatility; i) explain how yield volatility is forecasted. Reading: Chapter 8. Assignment: Be prepared to discuss in class the solutions to the end of the chapter questions.
23	Wednesday, 11/14/07	Chapter 9. "Valuing Bonds with Embedded Options" lecture. Key learning outcomes. The student should be able to: a) state the importance of using an arbitrage-free value when valuing a bond, and describe the methodology to ensure that an arbitrage-free value is being used; b) explain the importance of the benchmark interest rates in interpreting spread measures; c) explain the purpose of relative value analysis and determine, given an appropriate benchmark, whether a security is undervalued or overvalued; d) describe the basic features of a convertible bond; e) compute the value of the following for a convertible bond: conversion value, straight value, market conversion price (conversion parity), market conversion premium per share, market conversion premium ratio, premium payback period, and premium over straight value; f) discuss the components of a convertible bond's value that must be included in an option-based valuation approach; g) compare the risk-return characteristics of a convertible bond to the risk-return characteristics of ownership of the underlying common stock. Reading: Chapter 9. Assignment: Be prepared to discuss in class the

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		solutions to the end of the chapter questions. Chapter 10. "Mortgage-Backed Sector of the Bond Market" lecture. Key
		learning outcomes. The student should be able to:
		a) describe a mortgage loan and explain the cash flow characteristics of a
		fixed-rate, level payment, fully amortized mortgage loan; b) describe
		prepayments and how they result in prepayment risk; c) explain the
	Manday	investment characteristics of mortgage pass-through securities; d) calculate
24	Monday, 11/19/07	the prepayment amount for a month, given the single monthly mortality
	11/19/07	rate; e) describe how a collateralized mortgage obligation (CMO) is created and how it provides a better matching of assets and liabilities for
		institutional investors; f) compare and contrast agency and nonagency
		mortgage-backed securities.
		Reading: Chapter 10.
		Assignment: Be prepared to discuss in class the solutions to the end of
		the chapter questions.
		Finish Chapter 10 and begin Chapter 11. "Asset-Backed Sector of the
		Bond Market" lecture. Key learning outcomes. The student should be able
		to:
		a) identify the types of assets most likely to support an asset-backed
		security; b) explain prepayment tranching and credit tranching; c)
		differentiate between the payment structure of a securitization backed by
25	Monday,	amortizing assets and non-amortizing assets; d) differentiate among the
25	11/26/07	various types of external and internal credit enhancements; e) describe the
		cash flow and prepayment characteristics for securities backed by home
		equity loans, manufactured housing loans, automobile loans, student loans,
		SBA loans and credit card receivables.
		Reading: Chapter 11.
		Assignment: Be prepared to discuss in class the solutions to the end of
		the chapter questions.
		Finish Chapter 11 and Chapter 12. "Valuing Mortgage-Backed and Asset-
		Backed Securities" lecture. Key learning outcomes. The student should be
		able to:
		a) discuss the computation, use and limitations of the cash flow yield,
	XX71 1	nominal spread, and zero-volatility spread for a mortgage-backed security
26	Wednesday,	and an asset-backed security; b) describe the Monte Carlo simulation
	11/28/07	model for valuing a mortgage-backed security; c) explain how the option-
		adjusted spread is computed using the Monte Carlo simulation model and how this spread measure is interpreted.
		Reading: Chapter 12.
		Assignment: Be prepared to discuss in class the solutions to the end of
		the chapter questions.
27	Monday,	Outside Speaker. (Asset Backed Securities).
21	12/3/07	
28	Wednesday, 12/5/07	Project due (discussion). Catch-up and review for final exam.
	Finals	
	Week	Final Exam. 100 points. (Chapters 8-12, 15)
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6. PROJECT (more detailed information will be provided later in the semester)

The project will involve a thorough credit analysis of a corporation (or other entity) whose bond rating might be downgraded/upgraded. The project will include the following:

- 1. Background information of the company and the industry. This should include information about the company's outstanding bond issues, credit rating, management, bond covenants, etc.
- 2. Financial analysis of the past 5 years including key ratios. The most current 10-K and/or 10-Q data should be used so that the most up-to-date information is available.
- 3. Conclusion about the likelihood of downgrading/upgrading and the impact of the required yield and price of the outstanding bond issue.