

**FINC 862 -- FIXED INCOME SECURITIES**  
**Spring 2018**

Classroom: PRN118  
Wed 6.00pm-8:45pm

Date: 2/5/2018

**INSTRUCTOR**

Matthias Fleckenstein  
Office Address: 310 Purnell Hall  
Office Phone: 302.831.4936  
Office Hours: Fri 5:00-6:00pm  
Email: mflecken@udel.edu

This course is an introduction to fixed income markets and the analytic tools used by participants in these markets. Fixed income markets have been changing dramatically over the past few years, especially after the financial crisis. New regulation, aggressive monetary policy that led to zero nominal rates, large expansions of government debt, new empirical behavior of Treasury securities, design of new securities have had and continue to have major impact on how fixed income markets work. By its nature, fixed income is a very broad subject that would literally take years to cover in depth. Of necessity, this course needs to be selective. To strike a balance between coverage and institutional details we will focus primarily on the fundamental concepts underlying fixed income markets; with a solid grasp of the underlying theory, it should be much easier to pick up the rest while working in the industry. The course will be fairly quantitative with lots of formulas and number crunching. However, we will cover advanced real-world models and valuation techniques used by many banks and hedge funds which is an important asset to have in the competitive world of “Wall Street.”

**Course Material**

The primary source for the course will be the in-class lectures by the instructor, and examinations will be based primarily on this material.

To provide depth to the class material, we will also use the required text *Bond Markets, Analysis, and Strategies, 9th Edition* by Frank Fabozzi.

As supplements to these sources, I recommend the texts *The Handbook of Fixed Income Securities, 9th Edition* by Frank Fabozzi and Steven Mann and *Fixed Income Securities, 3rd Edition* by Bruce Tuckman and Angel Serrat. An advanced text that covers recent empirical research is the *Handbook of Fixed-Income Securities* by Pietro Veronesi.

Occasionally, additional readings may be posted on the class web site. These are mandatory, and questions based on this material may be on the tests.

## Pre-requisites

A good understanding of basic algebra, calculus, and statistics is key to mastering the material covered in this course. Official UD pre-requisites are FINC314, Math 201/202 and FINC311. It is also recommended to have taken Math221, or an equivalent Calculus course.

## Grading

Grading is on a curve. This means that you will be ranked relative to all students based on i) three tests and ii) quizzes, homework assignments, and class attendance.

The weighting shown below determines your final rank among all students enrolled in the two sections I teach.

Test 1	25%
Test 2	25%
Test 3	25%
Homework, Attendance	25%

## Tests

Test 1:	Wednesday, February 28
Test 2:	Wednesday, April 11
Test 3:	Wednesday, May 16

*No make up tests will be offered.*

All written tests will be held in class during scheduled class meeting times. The tests will not be open book, but you will be allowed to bring one page of notes and formulas and to use an ordinary calculator. The emphasis will be on demonstrating that you have mastered the concepts.

Students who are unable to take one test for an approved reason will have their course grade determined by the other tests (75% of the final grade from the two tests, and 25% homework assignments/attendance). There will be no 'make-up' tests.

Students are to take the tests at their scheduled times only. Students missing a test without an approved excused absence will be given a zero (0) score on the missed test. Students who do not take a test due to an approved excused absence will have the remaining graded material count proportionately (see above), but NO makeup tests will be given.

Students missing a test because of a University excused absence must submit an EXCUSED CLASS ABSENCE FOR GRADED WORK FORM and have it approved through the Dean's Office of Academic Advisement. Non-excused absences include, but are not limited to: weddings, non-University scheduled trips, job interviews and related "conflicts", regular medical appointments and minor medical "inconveniences," such as sniffles, headache, etc. Absences due to serious illness of the student, or student's family (e.g., hospitalization, surgery, or protracted medical illness or convalescence), or death within a student's family are recognized as University excused absences.

For these absences, an official absence from the Office of Undergraduate Advising must be obtained and submitted to the course Professor. The student will need to supply supportive evidence to Assistant Dean Rollison in order to obtain the excuse. Students are also expected to follow the testing instructions and procedures. There are significant grade penalties for not following these policies

For information on excused and unexcused absences, please see the UD policy at: <http://facultyhandbook.udel.edu/handbook/3113-student-class-attendance-and-excused-absences>.

### **Homework**

Homework assignments will be made nearly every week to improve the understanding of the material discussed in class and to provide you experience in applying concepts.

Homework will not be graded in depth. Each homework assignment counts as 10 points when i) work for all problems is clearly shown and ii) the assignment is submitted on time. Failing to meet any of these requirements will result in zero points.

There will be three general types of homework assignments. Initially, we will assign simple problem sets. Later, we will assign Excel based projects which will allow detailed application of dynamic term structure models to real world issues. The objective of these assignments is to give you some hands-on experience and to tinker with the models without having to worry too much about grading.

### **Quizzes**

I reserve the right to give in-class quizzes, modeled on the HW, the week after the topic is covered. These will be self-graded or collected and graded by me and count towards your homework assignments.

### **Policies**

Enrolling affirms your obligation to attend class, arrive on time and be prepared to discuss material, participate in discussion, do assignments, and take exams at their scheduled times. You will not be penalized if you miss a class or two per se, but do not ask for special treatment if other obligations conflict with class time. During the scheduled class time, all wired and wireless connections to the outside world are forbidden.

### **Study Habits**

It is essential for your success in the class, as well your general level of happiness over the semester, that you keep track of where the class is in the syllabus and familiarize yourself with the relevant material *in advance* of the class. It also is essential for you to check the class web site daily for instructions and assignments and do these on a timely basis.

I want you to do well in this course. One way that you can succeed is by completing each of the

problem sets. Success in your problem sets, and regularly showing up for class, are highly correlated with greater success on the written tests.

### **Faculty Statement on Disclosures of Instances of Sexual Misconduct**

If, at any time during this course, I happen to be made aware that a student may have been the victim of sexual misconduct (including sexual harassment, sexual violence, domestic/dating violence, or stalking), I am obligated by federal law to inform the university's Title IX Coordinator. The university needs to know information about such incidents to, not only offer resources, but to ensure a safe campus environment. The Title IX Coordinator will decide if the incident should be examined further. If such a situation is disclosed to me in class, in a paper assignment, or in office hours, I promise to protect your privacy--I will not disclose the incident to anyone but the Title IX Coordinator. For more information on Sexual Misconduct policies, where to get help, and reporting information please refer to [www.udel.edu/sexualmisconduct](http://www.udel.edu/sexualmisconduct). At UD, we provide 24 hour crisis assistance and victim advocacy and counseling. Contact 302-831-2226, Student Health Services, to get in touch with a sexual offense support advocate.

### **COURSE TOPICS**

1. Treasury Inflation Protected Securities
2. U.S. Treasury Bond Market
3. Interest Rates, Discount Rates, Present Values, Future Values, Annuities, Perpetuities
4. Sectors the U.S. Bond Market, Types of Bonds, Day-Count Conventions
5. Bond Pricing, Discount Factors, Bond Yields, Par/Premium/Discount Bonds
6. Yield Curve, Spot Rates, Forward Rates, Bootstrapping Yield Curves, Bond Holding Period Returns
7. Measuring Bond Risk, Interest Rate Sensitivity, Price/Yield Relationship, Duration, Convexity
8. Hedging Bond Interest Rate Risk, Duration and Convexity Hedging, Cash Flow Matching and Immunization
9. Treasury Repo Markets and the Basel Capital Standards
10. Interest Rate Derivatives, Forward Contracts, Forward Rate Agreements, Floating Rate Notes, Interest Rate Swaps

**The detailed class schedule will be posted on the course calendar.**