Course Syllabus
FIR 4721/6721-001
Fixed Income and Derivatives
Spring Semester, 2019
3.0 Credit Hours
(Last updated: 10/4/2018)

Instructor: Al Carrion, Ph.D., CFA
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Office: FCBE #429
Course Website: elearn.memphis.edu
Class time: MW 5:30 pm-6:55 pm, FCBE 123, Cook Analytics and Trading Lab
Office Hours: W 3:00 pm-4:30 pm (Central Time) or by appointment.

Course Overview:
This course provides an introduction to both fixed income and derivatives. In the fixed income segment, students will become familiar with various types of bonds, learn how to value and manage their risk, and analyze interest rates. In the derivatives segment, students will study futures, forwards, options, and swaps and learn how to price and hedge them using no-arbitrage pricing. This course is designed to be particularly useful to students planning to take the CFA Level 1 exam, and will make use of materials from the CFA Institute. The class will be taught at the state-of-the-art Cook lab. Extensive use of Excel and Bloomberg is required to complete projects and assignments.

Pre-Requisites/Co-Requisites:
FIR 3710/7410 or equivalent

Required Texts and Other Materials:

- A financial calculator. Students may choose any brand and model, but I will use the Texas Instruments BA II Plus to teach. For CFA candidates, I recommend the Texas Instruments BA II Plus (or the “Pro” version) is recommended.
• Additional materials to be posted on elearn.

Note: eBook, looseleaf, and rental versions of the textbook are all acceptable options and may be available at a substantially lower price than purchasing the standard bound hardcopy version.

Fogelman College: Learning Outcomes for Your Degree

This course is designed to help you to meet the overall learning objectives for the BBA degree offered by the Fogelman College. You should take the time to become familiar with the overall learning objectives as a student in the BBA degree program.

• BBA Program Outcomes (opens in new window)
• BBA in Accounting Program Outcomes (opens in new window)
• MBA Program Outcomes (opens in new window)
• IMBA Program Outcomes (opens in new window)
• EMBA Program Outcomes (opens in new window)
• MSBA Program Outcomes (opens in new window)
• MS in Accounting Program Outcomes (opens in new window)
• MA in Economics Program Outcomes (opens in new window)
• PhD Program Outcomes (opens in new window)

Graded Activities

Points earned on the assessed activities will be distributed as follows:

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>4721 Percentage</th>
<th>6721 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm exam</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>Final exam</td>
<td>30%</td>
<td>25%</td>
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<tr>
<td>Project</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Assignments and quizzes</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Bloomberg Market Concept (BMC) Certification</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Class participation</td>
<td>5%</td>
<td>5%</td>
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<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
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Exams:

This class will have a midterm and a final. The exams will cover a mix of conceptual questions and calculations. Exams will be closed book, however you will be allowed a one-page note
sheet and you will be allowed to use a non-programmable calculator. You will be allowed to put formulas, concepts, etc. on the note sheet, but you cannot copy entire problems onto the note sheet; I will ask you to turn-in your note sheet with your exam. You may wish to make a copy of your note sheet from the midterm in advance to use in preparing for the final exam.

No makeup exams will be given except for extraordinary circumstances (such as excused absence for travel for a University activity or a documented medical emergency).

**Graduate Project:**

Students registered for 6721 will complete a project in small teams. I will provide several choices for your topic, but all will involve working with financial data and will relate to fixed income securities or derivatives. The project will be a major focus of the second part of the semester and students will present their projects in one of our final class meetings.

**Bloomberg Market Concepts (BMC) Certification:**

4721 students are expected to complete Bloomberg Market Concepts and obtain a certificate (6721 students should have already done so in the prerequisite class). Bloomberg Market Concepts (BMC) is an 8-hour, self-paced e-learning course that provides a visual introduction to the financial markets. BMC consists of 4 modules - Economics, Currencies, Fixed Income and Equities - woven together from proprietary Bloomberg data, news, analytics and television. The course is available through the Bloomberg Institute website (Fees required) or on the Bloomberg Terminal in the finance lab through the function BMC <GO>. To learn more about BMC, please visit:

http://about.bloomberginstitute.com/bloomberg-market-concepts/

When creating a Bloomberg login, you will need to put in a Group Code that will be announced in class.
1-3  Introduction to Fixed Income Securities and Markets

The Main Fixed Income Market Sectors

The Characteristics of a Fixed Income Security

Issuance and Trading

4-6  Bond Valuation

Vanilla Bond Valuation

Floating Rate Bond Valuation

Money Market Instrument Valuation

7-9  The Term Structure of Interest Rates

Spot, Par, and Forward Curves

Theories of the Term Structure

Interest Rate Dynamics

10-12  Fixed Income Risk Analysis

Scenario Analysis

Duration & Convexity

Credit Risk

13  Midterm Exam (Wednesday April 27, 2019)

14  Introduction to Derivatives and No-Arbitrage Pricing

15-16  Forwards and Futures
The Theory of Storage and Valuation

The Futures Term Structure

Hedging Applications

17-19  **Options**

Option Characteristics

Option Payoff Diagrams

Put-Call Parity

The Binomial Option Model

20-22  **Swaps**

Interest Rate Swap Design

Interest Rate Swap Valuation

23-24  **Course Wrap-up and Review**

Project Presentations

Review for Final Exam

**Final Exam TBD**

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**Course Policies**

**E-MAIL:**

All students are required to maintain and access their University of Memphis (@memphis.edu) email account. You will receive all official course correspondence at this email account and/or through the eCourseWare mail system. Any inability to receive incoming mail in a timely fashion (e.g., not regularly checking your email, having a “full mailbox” condition, etc.) is the student’s responsibility. It is best to email me through the elearn interface. You are welcome to use my University of Memphis email address but there is a higher risk of a slow reply.
Professor's Expectations of Students:

In general, you should assist the instructor in creating a positive, supportive environment for learning by staying engaged in the course and actively participating in all discussions.

Student's Expectations of the Professor:

In my role as your instructor, there are certain things you can expect from me including: well-organized and engaging learning experience, response to emails within two (2) business days, and feedback on all work submitted within 7-10 calendar days.

Attendance and Participation:

Regular attendance and class participation are extremely important for success in this course, and attendance will be taken. Students are held responsible for all materials, and assignments presented in class, as well as any administrative announcements. If for any reason you must miss a class, you should get any relevant information from your colleagues. You should also regularly communicate with the instructor as part of your overall learning experience and check into the course frequently for announcements (usually on the course home page). You should plan on logging into the course at least three times each week.

Adding / Dropping:

If you have questions about adding or dropping classes, please refer to this page on the Registrar’s website (opens in new window).

Academic Integrity:

The University of Memphis has clear codes regarding cheating and classroom misconduct. If interested, you may refer to the Student Handbook section on academic misconduct for a discussion of these codes. Note that using a “Solutions Manual” is considered cheating. Should your professor have evidence that using a “Solutions Manual” has occurred, he/she may take steps as described on the campus’ Office of Student Conduct website (opens in new window). If you have any questions about academic integrity or plagiarism, you are strongly encouraged to review the Fogelman College's Website on Academic Integrity (opens in new window).

Classroom or Online Behavior:

All participants in the course should be considerate of the other course participants and treat them (as well as their opinions) with respect. The class will operate under the assumption that any and all feedback offered is positive in nature and that the intentions of the person(s) providing feedback are strictly honorable. Insensitivity in this area will not be tolerated. If you have any questions about online communication, you should review the Fogelman College's Netiquette website (opens in new window).

Late Assignments:

Assignments and projects may be submitted anytime up to and including the date due. If your work is submitted late but before I have provided solutions to the class, I reserve the option to
deduct up to 20% of the grade value for tardiness depending upon the circumstances and appropriate communication between the student and the instructor. No late work may be submitted after solutions have been provided.

**Extra Credit:**

There is no extra credit offered in this course. Your final grade will be computed based on your work on the formal/assessed activities previously described in this syllabus.

**Reporting Illness or Absence:**

Due dates and deadlines have been established for each graded assignment. In this course, deadlines are taken very seriously. Please do not wait until the last day to submit assignments or to take quizzes and exams. If an emergency should arise, it is the student’s responsibility to contact the instructor prior to the deadline to discuss the matter. A deadline extension will be considered only if all of the following conditions are met:
(1) Extreme emergency and (2) Instructor contacted prior to the due date.

**Inclement Weather:**

In the event that inclement weather requires the cancellation of classes at The University of Memphis, local radio and television media will be immediately notified. Additionally, The University of Memphis has established an Inclement Weather Hotline at 678-0888 as well as TigerText (opens in new window), an emergency alert text messaging service to students, faculty and staff. This optional service is used in the event of an on-campus emergency, an unscheduled university closing, or a delay or cancellation of classes due to, for instance, inclement weather. Additional information on TigerText (opens in new window).

**Syllabus Changes:**

The instructor reserves the right to make changes as necessary to this syllabus. If changes are necessitated during the term of the course, the instructor will immediately notify students of such changes both by individual email communication and posting both notification and nature of change(s) on the course bulletin board.

**Student Services**

Please access the FCBE Student Services (opens in new window) page for information about:

- Students with Disabilities
- Tutoring and other Academic Assistance
- Advising Services for Fogelman Students
- Technical Assistance