Course Overview
EC3214 is a course in Financial Economics that focuses on fixed income securities and the uses and misuses of financial derivatives. Topics covered include the pricing of fixed-income securities, futures, and options; hedging techniques using derivatives; and finally, the use of swaps.

Learning Outcomes
Upon completion of the course students should be able to

- demonstrate application of pricing models in valuating default-free fixed-income securities;
- derive forward rates given the prices of zero coupon bonds and identify arbitrage opportunities with mispriced bonds;
- evaluate the different theories of the term structure of interest rates;
- demonstrate familiarity with basic institutional features of derivatives markets;
- demonstrate how derivative instruments are priced and used for hedging purposes;
- synthesize a swap arrangement between two institutions given differing borrowing arrangements.

Course Delivery
The course will comprise a two-hour lecture and a one-hour seminar each week. The detailed learning outcomes and reading for each week are outlined below. Additionally, lecture notes will be made available on Moodle. Seminars will be based predominantly upon problem sets that are usually distributed in the previous week’s lecture or made available online on Moodle. Poor attendance in seminars could result in your being given an ‘Attendance Fail’ (AF) for the entire course and even cost you the academic year.

The lecturer and seminar tutors are available to students for consultation during advertised office hours or by appointment. As this is an intensive course, for your part, you are advised to devote an additional six (6) hours per week of study in this course, including independent study on online platforms.

Assessment
During the exam term in the summer there will be a two-hour unseen examination, which contributes 90% to the final mark. The exam will test students’ knowledge and understanding of the material covered in the course. These include their ability to manipulate diagrammatic and algebraic versions of the models treated in the course, their ability to apply models to real economic situations and their ability to critically appraise models and their application. The final grade is based on further coursework during term time. This coursework takes the form of an extended
essay/project/case study which may require data analysis and contributes toward 10% of the final mark.

Formative assessment will consist of one midterm test. The dates for these are laid out in the current Student Handbook. Standardised feedback on these pieces of work will be provided. **This piece of work is not assessed and therefore does not carry a formal weight. However you must complete it in all respects. Failure to do so would lead to the issue of a Formal Warning by the Department, which can ultimately lead to you failing the entire course or the termination of your registration.**

**Reading**
The primary text for the course is;

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It will provide most of the required reading. Other standard texts that you might wish to refer to are listed below. Further required reading for selected topics, and additional material in the form of lecture notes will be made available whenever necessary on Moodle. Students should also attempt to relate the material dealt within the course to actual events in the financial markets, as covered in the business sections of the broadsheets (e.g., Financial Times).

**Supplementary textbooks:**

Students who prefer a more technical exposition of the material covered may consider the following alternative:

**Supplementary reading:**
The reading list below includes a number of textbook chapters and journal articles that complement the required reading and help deepen your understanding of the topic. Contributions marked with an asterisk (*) are available online via JSTOR at [http://www.jstor.org/browse](http://www.jstor.org/browse) - for more information please ask the library staff.

**IMPORTANT NOTE: Financial Market Participants and Institutions**

Many textbooks contain fairly comprehensive descriptions of participants and institutions in financial markets. Some students will have covered a number of these issues in EC2212 (Financial Markets and Institutions). Students who have not done so will not suffer any disadvantage regarding the course material, as all the salient concepts will be introduced from scratch. However, all students taking the course are strongly encouraged to ensure (through self-study) that they are familiar with the roles and functions of major financial market participants, financial instruments and the arrangements and regulations that constitute a modern financial system. For example, students should have a notion of the main features that distinguish market participants (or the services provided by them) from each other. For textbook treatments of institutional issues see the supplementary reading for Lecture 1.

**(Tentative) Schedule**
<table>
<thead>
<tr>
<th>Lecture Title</th>
<th>Learning Outcomes</th>
<th>Reading</th>
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<tbody>
<tr>
<td>Lecture 1: Fixed-Income Securities: An Overview</td>
<td>In addition to learning the material covered in the reading and the lecture, students should be able to • demonstrate familiarity with the main sources of debt financing; • evaluate the various bond features, as well as the risks they may entail; • demonstrate ability in applying discounting methods to derive the yield to maturity</td>
<td>Required reading: [BKM] Chapter 14</td>
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<tr>
<td>Lectures 2-3: Bond Pricing and the Term Structure of Interest Rates</td>
<td>In addition to learning the material covered in the reading and the lecture, students should be able to • demonstrate how spot and forward rates are derived; • evaluate the theories of the term structure; • price default-free bonds.</td>
<td>Required reading: [BKM] Chapter 15</td>
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<td>Lectures 4: The Management of Bond Portfolios</td>
<td>In addition to learning the material covered in the reading and the lecture, students should be able to • analyse how interest rate risk affects bond portfolios; • demonstrate knowledge of the concepts of duration and convexity; • demonstrate how portfolio immunization strategies work.</td>
<td>Required reading: [BKM] Chapter 16</td>
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<tr>
<td>Lecture 5: Futures</td>
<td>In addition to learning the material covered in the reading and the lecture, students should be able to • understand the arrangements contained in forward contracts; • evaluate the differences between forwards and futures, especially regarding ‘marking to market’ and its implications; • price a forward contract; • demonstrate how such instruments can be used for hedging against certain risks.</td>
<td>Required reading: [BKM] Chapter 22</td>
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<tr>
<td>Lecture 6: Options I</td>
<td>In addition to learning the material covered in the reading and the lecture, students should be able to • understand the rights and obligations of the parties involved in various types of option contracts;</td>
<td>Required reading: [BKM] Chapter 20 Supplementary reading: [H] Chapter 8 and 9</td>
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| Lectures 7-8: Options II | In addition to learning the material covered in the reading and the lecture, students should be able to:  
• work out a number of price bounds for options (depending on their type, the time left to expiry, and their strike price);  
• demonstrate ability in working out binomial option pricing and the idea of arbitrage with a tracking portfolio;  
• to price a plain-vanilla option in a two-period binomial framework;  
• create trading positions in options. | Required reading: [BKM] Chapter 21  
Supplementary reading: [H] Chapters 10 and 11,  
|---|---|---|
| Lecture 9: Swaps | In addition to learning the material covered in the reading and the lecture, students should be able to:  
• construct of a plain vanilla swap contract;  
• evaluate the various types of interest rate swaps that are available;  
• analyse the potential uses of these tools. | Required reading: [BKM] Chapter 23  
Supplementary reading: [H] Chapter 7 |