

# **FE5101 Fixed Income and Derivatives**

## **Semester 1, AY 2019/2020**

<b>1.</b>	<b>Module Lecturer(s):</b>	Daniel Stone (part 1, Lectures 1-5)
	<p><b>Debt Securities and Interest Rates</b></p> <p><b>Readings</b> (ideally done in advance, but if not, they should be done shortly after the topic is covered in lecture)</p> <p>For lectures 1 &amp; 2:</p> <ul style="list-style-type: none"> <li>• Smith Ch1 + appendix 1 (p231-233),</li> <li>• Smith Ch2, p23-34</li> <li>• Smith Ch3, p39-56</li> <li>• Smith Ch5, p83-93</li> <li>• <a href="https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve">https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve</a> (supplementary)</li> </ul> <p>For Lecture 3:</p> <ul style="list-style-type: none"> <li>• <a href="https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/repo-and-collateral-markets/icma-ercc-publications/frequently-asked-questions-on-repo/1-what-is-a-repo/">https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/repo-and-collateral-markets/icma-ercc-publications/frequently-asked-questions-on-repo/1-what-is-a-repo/</a> (supplementary)</li> <li>• Smith Ch6</li> </ul> <p>For Lecture 4</p> <ul style="list-style-type: none"> <li>• Smith Ch5 (all) + p170-174</li> <li>• CME Understanding SOFR Futures</li> </ul> <p>For Lecture 5</p> <ul style="list-style-type: none"> <li>• Smith Ch8</li> <li>• Smith Supplement</li> <li>• Financial Training Course</li> <li>• CME OTC SOFR Swaps Product Overview (posted pdf)</li> </ul>	<p><b>Debt Securities and Interest Rates</b></p> <ul style="list-style-type: none"> <li>– Bonds and Debt Markets, Pricing and Valuation, Bond Yield curves and analytic methodology, zero-rates and forward rates</li> <li>– Repo Markets</li> <li>– Credit Pricing and Yield Spreads</li> <li>– Risk parameters, Duration, DV01 and Convexity calculation and trading applications.</li> </ul> <p><b>Interest Rate Derivatives</b></p> <ul style="list-style-type: none"> <li>– Rate derivatives: Forward Rates: Futures, and Swaps. Market dynamics, Trading, Pricing and Risk Management, common product applications.</li> <li>– Credit Default Swaps</li> <li>– OIS, SoFR, and other short-term rates</li> <li>– IRS Collateralisation</li> </ul>

3.	<b>Assessment (%):</b>	<u>CA components:</u>	
		Assignment: Midterm Exam	
		<b>Total for CA:</b>	50%
		<b>Total for Final Examinations:</b>	50%
		<b>Total Assessment (for this half of FE5101):</b>	<b>100%</b>
4.	<b>Modes of Teaching and Learning:</b>	5 class-based lectures supported by prepared notes, instructor-written supplements, and spreadsheet tools (sessions 1-5) 1 midterm with post-exam answers and commentary (Session 6) 1 final exam (open book basis)	
5.	<b>Illustrative Reading List:</b> (a) Compulsory reading: (b) Supplementary reading:	(a) Donald J Smith, Bond Math: The Theory Behind the Formulas, Wiley 2012  (a) Donald J Smith, Supplemental note on OIS... <a href="http://www.bu.edu/questrom/files/2011/10/A-Teaching-Note-on-Pricing-and-Valuing-Interest-Rate-Swaps-with-LIBOR-and-OIS-Discounting-2.pdf">http://www.bu.edu/questrom/files/2011/10/A-Teaching-Note-on-Pricing-and-Valuing-Interest-Rate-Swaps-with-LIBOR-and-OIS-Discounting-2.pdf</a>  (a) <a href="https://financetrainingcourse.com/education/2012/10/using-ois-overnight-indexed-swap-rates-versus-libor-for-irs-pricing/">https://financetrainingcourse.com/education/2012/10/using-ois-overnight-indexed-swap-rates-versus-libor-for-irs-pricing/</a>  (a) CME – Understanding SOFR Futures (posted pdf)  (b) FE5101 Pre-course reading supplement (posted pdf)  (b) Options, Futures, and Other Derivatives Author: John C. Hull 9e / Pearson Education  (b) CME OTC SOFR Swaps Product Overview (posted pdf)  (b) <a href="https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve">https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve</a>	