MATH 554 – B01   FINANCIAL MATHEMATICS
SUMMER 2014

PREREQUISITE: Math 114 or equivalent

INSTRUCTOR: Richard O'Beirne, Department of Mathematical Sciences
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MEETINGS: Tuesdays and Thursdays from 7:20 p.m. to 10:00 p.m. from June 3, 2014 through July 22, 2014 in room MTB1004

OFFICE HOURS: 3:30 p.m. – 4:30 p.m. on Tuesdays and Thursdays, and by appointment as necessary.

TEXTBOOK: "The Theory of Interest" by Stephen Kellison (Third Edition)

MATERIAL: The course will cover most of the material contained in the following chapters of the Kellison text:
Chapter 1 – The measurement of interest
Chapter 2 – Solutions of problems in interest
Chapter 3 – Basic annuities
Chapter 4 – More general annuities
Chapter 5 – Amortization schedules and sinking funds
Chapter 6 – Bonds and other securities
Chapter 7 – Yield rates
Chapter 9 – More advanced financial analysis
Chapter 10 – The term structure of interest rates
Chapter 11 – Duration, convexity and immunization

GRADING: There will be 3 one-hour tests and a final exam. I will drop the lowest of the three test scores. The highest two tests will count for 60% of the grade. There will be no makeup tests. If a test is missed it will count as the dropped test. The interim test dates will be: Test 1 – June 17, Test 2 – July 1, Test 3 – July 15. The final exam will be Tuesday, July 22 at 7:20 p.m. and will count for 40% of the grade.

This course has wide applicability to many areas of finance and business in general. However, it is focused on the topics prescribed by the Society of Actuaries (SOA) for their FM/2 exam. Throughout the course I will work many sample questions from past SOA examinations. In addition to covering the Theory of Interest topics, I will cover relevant material on derivative securities from the McDonald "Derivatives Markets" text (Chapters 1-5 and 8 – forwards, options, futures and swaps). It will not be necessary to purchase this text for this course. However, if you plan on taking the SOA FM/2 or MFE/3 examination you will need this text. Finally, to bring the subject matter to life we will do some actual paper trading in equity and index options throughout the course.