Central Connecticut State University
Department of Mathematical Sciences

Course Syllabus

FINANCIAL MATHEMATICS III (Actl 464/564)

Fall 2019

Required Text: Online study notes for Financial Mathematics and Mathematics of Financial Derivatives by Marcel Finan

Instructor: Dr. Frank Bensics
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Office Hours: M,T,W,Th 2:45 - 4:00

Prerequisites: Stat 315, Finance 295

Students for Whom the Course is intended: This course is designed to meet the needs of students who intend to pursue an actuarial career and ultimately take the required professional exams. The material is currently covered on the course IFM (Investment and Financial Markets) exam of both the SOA and Course 3 of the CAS.

Course Description: Lectures and problems related to the valuation under uncertainty in financial markets under equilibrium models such as the CAPM as well as no arbitrage models such as APM and Black-Scholes. Application of such approaches to corporate decisions such as capital structure choice.

Course Objective: To develop the student's knowledge of theoretical topics in investment and corporate finance which can be applied to the management of financial risk.

The tentative schedule is given below. It is subject to change, but notification of any change in test dates will be given in advance

WEEKS 1-4 Introduction to Forwards and Futures Finan FM 57-Interest Rate Swaps and Options 68,70-72,74

Test 1
<table>
<thead>
<tr>
<th>WEEKS 5-8</th>
<th>General Properties of Options</th>
<th>Finan MFE 1-3,6, 9-12</th>
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<tr>
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<td>Test 2</td>
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<tr>
<td>WEEKS 9-12</td>
<td>Option Pricing</td>
<td>Finan MFE 14-20,22, 27-31</td>
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<td>Test 3</td>
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<td>WEEKS 13-14</td>
<td>Option Greeks and Risk Management</td>
<td>Finan MFE 35, 40-50</td>
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<td>Exotic options</td>
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<td>Final Exam</td>
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**Evaluation**

Tests 1, 2, 3  
60%

Final Exam  
40%

There is no predetermined grading scale.

**University Policies:**

1. You must take the final exam at the time specified in the course selection book.

2. If you need course adaptations or accommodations because of a disability (or university), please make an appointment as soon as possible.

3. The last date to withdraw without special permission is November 18. Withdrawal forms are available in the Enrollment Center, Willard Hall. Cessation of attendance, notice to the instructor, or telephone calls to the Enrollment Center are not considered official notice of student's intention to withdraw from the course.