FIRE 441-001: Funds Management in Financial Institutions

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Fall 2025, Hybrid-Asynchronous (RONC), Credit hours - 3

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Class Room: B1114 Snead Hall
Class Hours: Mon 12:30 pm- 1:45 pm
Office Room: B4135 Snead Hall
Office Hours(**in-person**): M 10:35 am -11:35 am; and by appointment

Course Details / Learning objectives

This course aims to enhance a student's understanding of financial intermediation and fixed-income securities. Our focus will be on depository institutions such as a commercial bank. To enhance learning, the course emphasizes first on understanding the conceptual ideas, then on applying those ideas to solve numerical problems which are close to the real-life situations. The course is designed to keep a balance between the quantitative and qualitative aspects of financial intermediation.

The course contains six modules clustered in two distinct parts. The first part motivates with continuous compounding and the role of a financial intermediary within an economy. It also provides an overview of some of the known risks faced in financial intermediation such as interest rate risk, credit risk, liquidity risk, and foreign exchange rate risk. It further expands by studying the interest rate risk in detail, while focusing on the risk management tools. The second part helps to learn valuation of a fixed-income security. It employs the no-arbitrage framework as a unifying tool to determine fundamental values of various fixed-income securities such as regular-coupon bond, annuity, zero-coupon bond, forward interest rate agreements, and forward exchange rate derivatives.

Learning Resources

- **Required Readings**:
  - For each module, the personal handouts of the instructor will be provided.
  - For Module 1 and Module 4, class notes of Professor Michael Gibbons of Wharton will be provided. Professor Haluk Unal of University of Maryland graciously gave the electronic copies of Professor Gibbons' notes. The instructor is thankful to Professor Gibbons (and Professor Unal) for allowing his personal notes for VCU students.
  - The required readings and some of the course videos will be posted on VCU's Learning Management System - Canvas.
- Inexpensive scientific calculator.
- Recommended Textbook:
  - (For Modules 2-3) : Financial Institutions Management: A Risk Management Approach, Ninth edition, by Saunders, A. and M. M. Cornett, McGraw-Hill, (2018) ISBN: 978-1-259-71777-2.

Prerequisites - as per the bulletin

"FIRE 312 with a minimum grade of C"

Learning Outcomes

Successful students:

1. will improve their understanding of financial intermediation and fixed-income securities.
2. will be motivated to take higher-level academically rigorous finance courses.
3. will notice an improvement in their problem-solving, reading, and communication skills.
4. will experience joy in undertaking intellectually-stimulating tasks rather than entering numbers in a financial calculator/spreadsheet to obtain the final answer.

Course Structure

Class Structure

The class is structured in a hybrid teaching format, that consists of in-person and on-line asynchronous modalities.

Each in-person class will meet on Mondays from 12:30 p.m. to 1:45 p.m. in B1114. During the in-person class, a student will be introduced to a concept related to financial intermediation or fixed-income securities followed by interactions among students and the instructor. Once the concept is reasonably understood, we will take problems based on that concept. The instructor will solve the problems with students during the class. The students are highly encouraged to read the topic in advance from the instructor's handouts, before it is discussed during the class. And during the class, they must solve the problems with the instructor using the regular calculator.

For more practice, some of the additional problems will be assigned at the end of the in-person class. The solution key of these problems are either in the form of videos or type/hand-written notes, and they will be posted on Canvas.

The students must go over these additional problems before coming to the next in-person class. In case of doubts, the student is required to meet the faculty during the in-person office hours. Each in-person class will be utilized mainly to discuss a new financial concept.

Assessments

Class Participation / Attendance

The academic rigor of the course requires the students to actively attend each in-person class session, take notes, and go over the on-line material. If a student misses the class, then it will be difficult for that student to follow the material covered in the subsequent classes. To avoid that, a student is required to take the class material from other students and try to understand on their own before coming to the next class or asking doubts to the instructor. **Some of the material covered in the class may not be there in the homework quizzes.** The exams predominantly contain the material covered in the class, on-line videos, and homework quizzes.

The students need to actively participate during the class. They need to interact and express their ideas on the material being discussed during the class. In addition, during the class, they need to solve the problems with the instructor using their scientific calculator and provide their answers, so that the instructor can use that number. Although attendance is not mandatory, the course difficulty requires that a student attends each in-person class.

Homework Assignments / Quizzes

The homework quizzes will be given throughout the semester. Each quiz will contain instructions such as the duration, deadline, number of attempts (mostly two), and number of points. Each homework quiz must be submitted individually. **All quizzes need to be submitted through Canvas. NO LATE SUBMISSION IS ALLOWED.** Each homework's due date will be on a given Tuesday of a week. The final homework points will be based on the combined scores of all homework quizzes. There are no partial credit points in the homework quizzes. If a student does not submit the homework quiz, then they will not have access to that particular homework. That can cause difficulties when they prepare for the exams. In that case, they must collect homework assignments from their classmates.

Exams

There will be two in-class (mid-term) exams. The first exam covers roughly the first half of the course (Modules 1-3), and the second exam covers the remaining portion of the course (Modules 4-6). The final exam covers all the portion covered during the semester (Modules 1-6).

Each exam will be given in the classroom, and **it will be a paper-pencil based.** A student is allowed to bring their calculator. The required formulae will be given in the exam copy. In order to avoid tendency of "waiting-till-last day", there will be no office hours during the week of an exam. **The final exam will have some challenging problems** that require a student's strong conceptual understanding of the material covered throughout the semester (both in-class and on-line).

The instructor will grade each exam copy. The partial credit will be only given if the instructor finds that the student has understood the material and has made an innocuous mistake, such as entering a wrong number in a calculator. In addition, the student **must show their work clearly. By just writing numbers on the paper without appropriate heading will not earn any credit**.

For Exam 1 and Exam 2, after the grades are posted on Canvas, a student must collect their exam copies as soon as possible during the office hours. The grade dispute, if any, must be resolved while the concerned student is in the instructor's office. The uncollected copies will be distributed during the last in-person class. At that time, no changes in the grades of Exam 1 and Exam 2 will be made.

There will be no make-up exam. The student can have a make-up exam only on those extenuating circumstances, for example hospitalization, in which the university requires the instructor to give a make-up exam. Please note that the make-up exam is more difficult and challenging than a regular exam due to limited pool of possible questions.

Grading Policy

The grade will count the assessments using the following proportions:

- **<u>25%</u>** of your grade will be determined by in-class Exam 1 (Modules 1-3).
- **<u>30%</u>** of your grade will be determined by in-class Exam 2 (Modules 4-6).
- **<u>35%</u>** of your grade will be determined by in-class Final Exam (Modules 1-6).
- **<u>10%</u>** of your grade will be determined by homework quizzes.

Letter grade will be assigned using the following scale:

A (above 90 points), B (above 80 points), C (above 70 points), D (above 55 points).

Other Information

- Syllabus Policy Statement **https://provost.vcu.edu/faculty/faculty-resources/syllabus/**

- Library resources **https://www.library.vcu.edu/**

Class Schedule
The class schedule is tentative and subject to changes.

Week 01, Syllabus / Module 1: Continuous compounding

Week 02, Module 1 (Continue)

Week 03, Module 2 Financial Intermediary – An overview

Week 04, Module 2 (Continue) Asset-transformation function of a financial intermediary

Week 05, Module 3 Overview of risks faced by a commercial bank

Week 06, Module 3 (Continue) Interest Rate Risk

Week 07, Exam 1 (Monday 9/29/25 or 10/6/25) in-class

Week 08, Module 4: Bond Valuation using No-Arbitrage principle

Week 09, Module 4: Continue

Week 10, Module 5: Forward Interest Rate agreements using no-arbitrage principle

Week 11, Module 5: Continue

Week 12, Module 6: Forward Exchange Rate using no-arbitrage principle

Week 13, Module 6: Continue

Week 14, Exam 2 (Monday 11/17/25) in-class

Final Exam Tuesday, December 16, 12:30 p.m.-2:30 p.m. (in-class)