

Syllabus for FIN-3820

RISK MANAGEMENT

COURSE DESCRIPTION

Risk Management presents an overview of the measurement and management of risks in modern financial institutions. The course begins with a review of topics, such as the efficient frontier and capital asset pricing model (CAPM), that serve as a basis for understanding risk-return analysis. The course then moves on to examine various tools used in measuring and analyzing risks, placing emphasis on value at risk (VaR) approaches. This course also discusses off-balance-sheet items such as loan commitments and securitization and examines the role of regulators in controlling such risks. As a foundation for understanding financial crises, the course describes the U.S. mortgage market, asset-backed securities (ABSs) and collateralized debt obligations (CDOs). Finally, the course evaluates the benefits of scenario analysis and stress testing.

Advisory: This is an upper-level course. It is advisable to have completed FIN-3010 (Principles of Finance); either MAT-1190 (Quantitative Business Analysis) or MAT-1280 (Pre-calculus for Business); **and** STA-2010 (Principles of Statistics) with grades of C or better in order to succeed in this course. Students are responsible for making sure that they have the necessary knowledge.

COURSE TOPICS

- Investor risk-return analysis
- The capital asset pricing model (CAPM)
- Risk management by financial institutions
- Types of mutual funds and hedge funds
- Derivatives markets
- Role of government (the Fed, Congress, Treasury, SEC) in controlling risk
- Volatility estimation from historical data
- Correlations and copulas
- Value at risk (VaR) and capital
- Simulation methodology
- Extreme value theory
- Model-building methodology
- Credit ratings
- Credit default swaps
- Credit risk mitigation
- The U.S. housing market
- Securitization
- Categorization of operational risks
- Loss severity and frequency

- Sarbanes-Oxley
- Liquidity trading and funding risks
- Definition and components of economic capital
- Risk-adjusted return on capital (RAROC)
- Risk limits
- Liquidity risk

COURSE OBJECTIVES

After completing this course, students should be able to:

- CO 1** Discuss risk-return analysis and the methods used by financial analysts to manage risk.
- CO 2** Distinguish between the roles of commercial and investment banking; insurance companies and pension plans; and mutual and hedge funds in the economy.
- CO 3** Characterize financial instruments and how they are used to manage risk.
- CO 4** Evaluate interest rate risk management approaches.
- CO 5** Assess the strengths and weaknesses of value at risk (VaR) measures.
- CO 6** Analyze methods for monitoring volatilities and correlations.
- CO 7** Evaluate the historical simulation and model-building approaches to calculating market risk VaR.
- CO 8** Analyze the management of credit risk, distinguishing between risk-neutral and real-world estimates.
- CO 9** Explain the origins of the 2007 U.S. financial crisis and the contributions of the mortgage market, asset backed securities, and collateralized debt obligations.
- CO 10** Evaluate the role of scenario analysis and stress testing in risk management.
- CO 11** Differentiate between operational, liquidity, and model risks.
- CO 12** Discuss approaches for estimating economic capital for different risks as well as risk-adjusted return on capital (RAROC).

COURSE MATERIALS

You will need the following materials to complete your coursework. Some course materials may be free, open source, or available from other providers. You can access free or open-source materials by clicking

the links provided below or in the module details documents. To purchase course materials, please visit the [University's textbook supplier](#).

Required Textbook

- Hull, J. C. (2023). *Risk management and financial institutions* (6th ed.). Hoboken, NJ: John Wiley and Sons.
Print ISBN: 978-1119932482
eText ISBN: 978-1119932499

COURSE STRUCTURE

Risk Management is a three-credit online course consisting of **eight** modules. Modules include an overview, topics, learning objectives, study materials, and activities. Module titles are listed below.

- **Module 1: Introduction to Risk Management**
Course objectives covered in this module: CO 1, CO 2
- **Module 2: Financial Instruments and Interest Rate Risk**
Course objectives covered in this module: CO 3, CO 4
- **Module 3: Volatilities, Correlations, and Value at Risk**
Course objectives covered in this module: CO 5, CO 6
- **Module 4: Market Risk VaR**
Course objectives covered in this module: CO 7
- **Module 5: Credit Risk**
Course objectives covered in this module: CO 8
- **Module 6: The Credit Crunch and Stress Testing**
Course objectives covered in this module: CO 9, CO 10
- **Module 7: Operational, Liquidity, and Model Risks**
Course objectives covered in this module: CO 11
- **Module 8: Economic Capital and Risk-Adjusted Return on Capital (RAROC)**
Course objectives covered in this module: CO 12

ASSESSMENT METHODS

For your formal work in the course, you are required to participate in online discussion forums, complete written assignments, complete a midterm project, and complete a final project. See below for details.

Consult the Course Calendar for due dates.

Promoting Originality

One or more of your course activities may utilize a tool designed to promote original work and evaluate your submissions for plagiarism. More information about this tool is available in [this document](#).

Discussion Forums

You are required to participate in **seven** graded discussion forums as well as an ungraded Introductions Forum.

For posting guidelines and help with discussion forums, please see the Student Handbook located within the General Information page of the course website.

Located within the Evaluation Rubrics section of the course website is the rubric used in the grading of online discussions.

Written Assignments

You are required to complete **eight** written assignments. The written assignments are on a variety of topics associated with the course modules.

For help regarding preparing and submitting assignments, see the Student Handbook located within the General Information page of the course website.

Midterm Project

The midterm project consists of a paper of 3000 to 3750 words (12 to 15 pages) in which you will describe and evaluate value at risk (VaR).

See the Midterm Project area of the course for a fuller description.

The course site includes a link to the rubric that will be used to grade your paper.

Final Project

The final project consists of a paper of 2500 to 3000 words (10 to 12 pages) in which you will analyze the risk management practices of a real-world corporation.

See the Final Project area of the course for a fuller description.

The course site includes a link to the rubric that will be used to grade your paper.

GRADING AND EVALUATION

Your grade in the course will be determined as follows:

- **Online discussions (7)**—15%
- **Written assignments (8)**—30%
- **Midterm project**—30%
- **Final project**—25%

All activities will receive a numerical grade of 0–100. You will receive a score of 0 for any work not submitted. Your final grade in the course will be a letter grade. Letter grade equivalents for numerical grades are as follows:

A	= 93–100	C+	= 78–79
A–	= 90–92	C	= 73–77
B+	= 88–89	C–	= 70–72
B	= 83–87	D	= 60–69
B–	= 80–82	F	= Below 60

To receive credit for the course, you must earn a letter grade of C or better (for an area of study course) or D or better (for a course not in your area of study), based on the weighted average of all assigned course work (e.g., exams, assignments, discussion postings).

STRATEGIES FOR SUCCESS

First Steps to Success

To succeed in this course, take the following first steps:

- Read carefully the entire Syllabus, making sure that all aspects of the course are clear to you and that you have all the materials required for the course.
- Take time to read the entire Online Student Handbook. The Handbook answers many questions about how to proceed through the course and how to get the most from your educational experience at Thomas Edison State University.
- Familiarize yourself with the learning management systems environment—how to navigate it and what the various course areas contain. If you know what to expect as you navigate the course, you can better pace yourself and complete the work on time.

- If you are not familiar with web-based learning, be sure to review the processes for posting responses online and submitting assignments before class begins.

Study Tips

Consider the following study tips for success:

- To stay on track throughout the course, begin each week by consulting the Course Calendar. The Course Calendar provides an overview of the course and indicates due dates for submitting assignments, posting discussions, and submitting the midterm and final projects.
- Check Announcements regularly for new course information.

Using AI Ethically: A Guide for TESU Students

TESU's [Academic Code of Conduct](#) permits student AI use in support of their writing and research process—not as a replacement for original writing. Document AI use with an acknowledgment statement at the end of each assignment, noting the tools and prompts used. Cite any AI-generated content on the References page. Please review [Using AI Ethically: A Guide for TESU Students](#) for more detailed information.

COMMITMENT TO DIVERSITY, EQUITY, AND INCLUSION

Thomas Edison State University recognizes, values, and relies upon the diversity of our community. We strive to provide equitable, inclusive learning experiences that embrace our students' backgrounds, identities, experiences, abilities, and expertise.

ACCESSIBILITY AND ACCOMMODATIONS

Thomas Edison State University adheres to the Americans with Disabilities Act (ADA, 1990; ADAAA, 2008) and Section 504 of the Rehabilitation Act of 1973. The Office of Student Accessibility Services (OSAS) oversees requests for academic accommodations related to disabilities; a student who is pregnant, postpartum, or a student parenting a newborn who is not the birth parent [as covered under NJSA18A]; and students requesting academic accommodation for a short-term/temporary illness and/or injury. Information can be found on the [Office of Student Accessibility Services](#) webpage and questions can be sent to ADA@tesu.edu.

ACADEMIC POLICIES

To ensure success in all your academic endeavors and coursework at Thomas Edison State University, familiarize yourself with all administrative and academic policies including those related to academic integrity, course late submissions, course extensions, and grading policies.

For more, see:

- [University-wide policies](#)
- [Undergraduate academic policies](#)
- [Undergraduate course policies](#)
- [Graduate academic policies](#)
- [Graduate course policies](#)
- [Nursing student policies](#)
- [Nursing graduate student policies](#)
- [International student policies](#)
- [Academic code of conduct](#)