MINOR IN FINANCIAL COMPUTATION AND MODELING

Program Learning Outcomes for the Minor in Financial Computation and Modeling

Upon completing the minor in Financial Computation and Modeling, students will be able to:

1. Demonstrate knowledge of statistical, mathematical, and computational techniques and methods and how to choose and apply appropriate methods to questions or problems in the field of finance.
2. Understand the basic concepts of Economic Theory and how they apply to financial markets as well as how financial markets impact global economies.
3. Demonstrate an understanding of basic financial databases and the ability to use technologies, like R and Excel, to model and solve financial problems.
4. Understand core quantitative modeling concepts and demonstrate key skills necessary for working in the field of finance and investing.
5. Demonstrate the ability to understand, interpret, and critically evaluate empirical financial studies and investment strategies.

Requirements for the Minor in Financial Computation and Modeling

Students pursuing the minor in Financial Computation and Modeling must complete:

- A minimum of 7 courses (20-23 credit hours, depending on course selection) to satisfy minor requirements.
- A minimum of 5 courses (16 credit hours) taken at the 300-level or above.

The courses listed below satisfy the requirements for this minor. In certain instances, courses not on this official list may be substituted upon approval of the minor's academic advisor, or where applicable, the Program Director. (Course substitutions must be formally applied and entered into Degree Works by the minor's Official Certifier (https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/)). Students and their academic advisors should identify and clearly document the courses to be taken.

Summary

Code	Title	Credit Hours
Total Credit Hours Required for the Minor in Financial Computation and Modeling		20-23

Minor Requirements

Code	Title	Credit Hours
Core Requirements		
ECON 100	PRINCIPLES OF ECONOMICS	3
STAT 310 / ECON 307	PROBABILITY AND STATISTICS	3-4
or STAT 311	HONORS PROBABILITY AND MATHEMATICAL STATISTICS	
or STAT 315 / DSCI 301	PROBABILITY AND STATISTICS FOR DATA SCIENCE	
STAT 376 / ECON 310	ECONOMETRICS	4
or STAT 410	LINEAR REGRESSION	
STAT 499	TOPICS IN STATISTICAL SCIENCES	1-3
Elective Requirements		
Select 3 courses from the following 2 groups: [1]		*9*
Group I		
CMOR 451	SIMULATION MODELING AND ANALYSIS	
CMOR 455	STOCHASTIC CONTROL AND APPLICATIONS	
CMOR 462	OPTIMIZATION METHODS IN FINANCE	
ECON 449	PRINCIPLES OF FINANCIAL ENGINEERING	
ECON 455	MONEY AND BANKING	
ECON 456	TOPICS IN BUSINESS ECONOMICS: FINANCIAL MARKET AND INVESTMENTS	
ECON 479	MATHEMATICAL FOUNDATIONS FOR COMPUTATIONAL ECONOMICS	
STAT 421	APPLIED TIME SERIES AND FORECASTING	
STAT 449	QUANTITATIVE FINANCIAL RISK MANAGEMENT	
STAT 487	COFES BLOCKCHAIN AND CRYPTOCURRENCIES	
Group II		
BUSI 343	FINANCIAL MANAGEMENT	
ECON 343	CORPORATE FINANCE	
ECON 355	FINANCIAL MARKETS	
ECON 422	INTERNATIONAL ECONOMICS AND FINANCE	
STAT 482	QUANTITATIVE FINANCIAL ANALYTICS	
STAT 486	MARKET MODELS	
Total Credit Hours		**20-23**

Footnotes and Additional Information

[1] A minimum of 1 course (3 credit hours) must be taken from each group to satisfy Elective Requirements.

Policies for the Minor in Financial Computation and Modeling

Program Restrictions and Exclusions

Students pursuing the minor in Financial Computation and Modeling should be aware of the following program restriction:

- As noted in Majors, Minors, and Certificates (https://ga.rice.edu/undergraduate-students/academic-opportunities/majors-minors-certificates/), i.) students may declare their intent to pursue a minor only after they have first declared a major, and ii.) students may not major and minor in the same subject.

Transfer Credit

For Rice University's policy regarding transfer credit, see Transfer Credit (https://ga.rice.edu/undergraduate-students/academic-policies-procedures/transfer-credit/). Some departments and programs have

additional restrictions on transfer credit. The Office of Academic Advising maintains the university's official list of transfer credit advisors (https://oaa.rice.edu/advising-network/transfer-credit-advisors/) on their website: https://oaa.rice.edu. Students are encouraged to meet with their academic program's transfer credit advisor when considering transfer credit possibilities.

Program Transfer Credit Guidelines

Students pursuing the minor in Financial Computation and Modeling should be aware of the following program-specific transfer credit guidelines:

- Requests for transfer credit will be considered by the program director (and/or the program's official transfer credit advisor) on an individual case-by-case basis.

Additional Information

For additional information, please see the *Students > Undergraduate* page on the Center for Computational Finance and Economic Systems website: https://cofes.rice.edu/.

Opportunities for the Minor in Financial Computation and Modeling

Academic Honors

The university recognizes academic excellence achieved over an undergraduate's academic history at Rice. For information on university honors, please see Latin Honors (https://ga.rice.edu/undergraduate-students/honors-distinctions/university/) (*summa cum laude*, *magna cum laude*, and *cum laude*) and Distinction in Research and Creative Work (https://ga.rice.edu/undergraduate-students/honors-distinctions/university/). Some departments have department-specific Honors awards or designations.

Finance Seminar

Students pursuing the FCAM minor have the opportunity to participate in STAT 499 *Mathematical Sciences Seminar* for 1 credit hour. Students are also encouraged to take part in the annual Eubank Conference on Real World Markets and join the student computational finance club.

Internship and Research Opportunities

The Center for Computational Finance and Economic Systems (CoFES) and the Department of Statistics encourages the practice of quantitative finance through summer internships, employment and research. Information on current opportunities are distributed to students through an FCAM email list.

Additional Information

For additional information, please see the *Students > Undergraduate* page on the Center for Computational Finance and Economic Systems website: https://cofes.rice.edu/.