MASTER OF COMPUTATIONAL ECONOMICS (MCECON) DEGREE

Program Learning Outcomes for the MCEcon Degree

Upon completing the MCEcon degree, students will be able to:

1. Demonstrate advanced quantitative skills, including proficiency in statistical analysis, econometrics, and mathematical modeling, enabling them to tackle complex economic problems.
2. Acquire a high level of proficiency in programming languages and computational tools relevant to economic analysis, allowing them to manipulate and analyze large datasets effectively.
3. Develop a high level of proficiency in programming languages and computational tools relevant to dynamic economic analysis.
4. Collect, process, and interpret data, employing advanced analytical techniques to derive meaningful insights and inform evidence-based economic decision-making.
5. Communicate effectively, both in written and oral forms, enabling them to communicate effectively complex economic analyses and findings to diverse audiences, including policymakers, stakeholders, and the public.

Requirements for the MCEcon Degree

The MCEcon degree is a non-thesis master's degree. For general university requirements, please see Non-Thesis Master's Degrees (https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-non-thesis-masters-degrees/). For additional requirements, regulations, and procedures for all graduate programs, please see All Graduate Students (https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/). Students pursuing the MCEcon degree must complete:

- A minimum of 12 courses (40 credit hours) to satisfy degree requirements.
- A minimum of 40 credit hours of graduate-level study (graduate semester credit hours, coursework at the 500-level or above).
- A minimum of 32 graduate semester credit hours must be taken at Rice University.
- A minimum of 24 graduate semester credit hours must be taken in standard or traditional courses (with a course type of lecture, seminar, laboratory, lecture/laboratory).
- A minimum residency enrollment of 4 semesters of full-time graduate study at Rice University.
- A maximum of 2 courses (6 graduate semester credit hours) from transfer credit. For additional departmental guidelines regarding transfer credit, see the Policies (p. 2) tab.
- A minimum overall GPA of 2.67 or higher in all Rice coursework.
- A minimum program GPA of 2.67 or higher in all Rice coursework that satisfies requirements for the non-thesis master's degree.

The courses listed below satisfy the requirements for this degree program. In certain instances, courses not on this official list may be substituted upon approval of the program's academic advisor or, where applicable, the department or program's Director of Graduate Studies. Course substitutions must be formally applied and entered into Degree Works by the department or program's Official Certifier (https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/). Additionally, these course substitutions must be approved by the Office of Graduate and Postdoctoral Studies. 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 MCEcon Degree		40

Degree Requirements

Code	Title	Credit Hours
Core Requirements [1]		
ECON 501	MICROECONOMICS I	3
ECON 502	MACROECONOMICS	3
ECON 510	ECONOMETRICS I	3
ECON 511	ECONOMETRICS II	3
ECON 631	MATHEMATICAL FOUNDATIONS FOR COMPUTATIONAL ECONOMICS	4
ECON 632	DATA TOOLS FOR COMPUTATIONAL ECONOMICS	4
ECON 633	DYNAMIC MODELS FOR COMPUTATIONAL ECONOMICS	4
ECON 634	MACHINE LEARNING AND ALGORITHMS FOR COMPUTATIONAL ECONOMICS	4
Elective Requirements		
Select 4 courses from the following:		*12*
ECON 504	COMPUTATIONAL ECONOMICS	
ECON 505	FINANCIAL ECONOMICS I	
ECON 514	EMPIRICAL INDUSTRIAL ORGANIZATION	
ECON 515	LABOR ECONOMICS	
ECON 516	EMPIRICAL MICROECONOMICS	
ECON 517	EMPIRICAL INDUSTRIAL ORGANIZATION II	
ECON 519	ECONOMIC GROWTH AND DEVELOPMENT	
ECON 521	MATCHING AND MARKET DESIGN	
ECON 523	DYNAMIC OPTIMIZATION	
ECON 547	ADVANCED TOPICS IN ENERGY ECONOMICS	
ECON 565	HEALTH ECONOMICS	
ECON 575	TOPICS IN MACROECONOMICS I	
ECON 576	TOPICS IN MACROECONOMICS II	
ECON 579	TOPICS IN ECONOMETRICS II	
SOPE 502	APPLICATIONS OF PROGRAM EVALUATION – CRIMINAL JUSTICE	
SOPE 503	QUANTITATIVE METHODS FOR PROGRAM EVALUATION	
SOPE 504	APPLICATIONS OF PROGRAM EVALUATION – LABOR MARKETS	

SOPE 506	APPLICATIONS OF PROGRAM EVALUATION – HEALTH	
SOPE 508	APPLICATIONS OF PROGRAM EVALUATION – EARLY CHILDHOOD AND YOUTH DEVELOPMENT	
Total Credit Hours		**40**

Footnotes and Additional Information

[1] During the summer before the student's first fall semester, three online "camps" (a foundational *Computational* camp, one in *Statistics*, and one in *Mathematics*, hosted by the Economics department and Rice Online Learning) must be successfully completed as required prerequisites to the MCEcon degree program's Core Requirements.

Proposed Plan-of-Study

The following plan-of-study represents the current four-semester sequence in which MCEcon students complete the required coursework. Substitution of courses may be made on a rare, exceptional basis with permission of the program director

Course	Title	Credit Hours
First Year		
1st Semester (Fall)		
ECON 501	MICROECONOMICS I	3
ECON 502	MACROECONOMICS	3
ECON 510	ECONOMETRICS I	3
	Credit Hours	**9**
2nd Semester (Spring)		
ECON 511	ECONOMETRICS II	3
ECON 631	MATHEMATICAL FOUNDATIONS FOR COMPUTATIONAL ECONOMICS	4
ECON 632	DATA TOOLS FOR COMPUTATIONAL ECONOMICS	4
	Credit Hours	**11**
Second Year		
1st Semester (Fall)		
ECON 633	DYNAMIC MODELS FOR COMPUTATIONAL ECONOMICS	4
ECON 634	MACHINE LEARNING AND ALGORITHMS FOR COMPUTATIONAL ECONOMICS	4
Elective one	Elective one	3
	Credit Hours	**11**
2nd Semester (Spring)		
Elective two	Elective two	3
Elective three	Elective three	3
Elective four	Elective four	3
	Credit Hours	**9**
	Total Credit Hours	**40**

Policies for the MCEcon Degree

Department of Economics Graduate Program Handbook

The General Announcements (GA) is the official Rice curriculum. As an additional resource for students, the Department of Economics publishes a graduate program handbook, which can be found here:

Enrollment Status Requirements

Students may enroll in the Master of Computational Economics degree for full-time enrollment only. University graduation requirements (including the minimum residency requirement for students in graduate degree programs) still apply.

Transfer Credit

For Rice University's policy regarding transfer credit, see Transfer Credit (https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/#transfer). Some departments and programs have additional restrictions on transfer credit. Requests for transfer credit must be approved for Rice equivalency by the appropriate academic department offering the Rice equivalent course (corresponding to the subject code of the course content) and by the Office of Graduate and Postdoctoral Studies (GPS). Students are encouraged to meet with their academic program's advisor when considering transfer credit possibilities.

Program Transfer Credit Guidelines

Students pursuing the MCEcon degree should be aware of the following program-specific transfer credit guideline:

- No more than 2 courses (6 credit hours) of transfer credit from U.S. or international universities of similar standing as Rice may apply towards the degree.

Additional Information

For additional information, please see the Economics website: https://economics.rice.edu/.

Opportunities for the MCEcon Degree

Additional Information

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