MASTER OF COMPUTATIONAL AND APPLIED MATHEMATICS (MCAAM) DEGREE

Program Learning Outcomes for the MCAAM Degree

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

1. Acquire broad, advanced knowledge in Computational and Applied Mathematics that is also deep within a major sub-discipline.
2. Demonstrate an ability to gain employment or advancement in a technical field related to Computational and Applied Mathematics.

Requirements for the MCAAM Degree

The MCAAM 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 MCAAM degree must complete:

- A minimum of 10 courses (30 credit hours) to satisfy degree requirements.
- A minimum of 30 credit hours of graduate-level study (coursework at the 500-level or above).
- A minimum of 24 credit hours must be taken at Rice University.
- A minimum residency enrollment of one fall or spring semester of part-time graduate study at Rice University.
- A minimum overall GPA of 2.67 or higher in all Rice coursework.
- A minimum GPA of 2.67 or higher in all Rice coursework that satisfies requirements for the non-thesis master’s degree.

This professional degree program emphasizes the applied aspects of mathematics, and requires satisfactory completion of at least 30 credit hours of graduate-level coursework approved by the department.

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/d degree/works/officialcertifier/). Additionally, these 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
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<td>30</td>
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</table>

Total Credit Hours Required for the MCAAM Degree

Degree Requirements

Core Requirements

Select 2 courses from the following:

<table>
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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CAAM 519</td>
<td>COMPUTATIONAL SCIENCE I</td>
<td>6</td>
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<tr>
<td>CAAM 550</td>
<td>NUMERICAL ANALYSIS I</td>
<td></td>
</tr>
<tr>
<td>CAAM 554</td>
<td>ITERATIVE METHODS FOR SYSTEMS OF EQUATIONS AND UNCONSTRAINED OPTIMIZATION</td>
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Elective Requirements

Select at least 8 courses (24 credit hours) of departmental (CAAM) course offerings at the 500-level or above 1, 2

Total Credit Hours

Footnotes and Additional Information

1. A number of CAAM courses, including CAAM 600, CAAM 698, CAAM 699, and CAAM 800 may not be applied toward the Elective Requirements. Thesis, seminar, or independent study courses cannot be applied towards the Elective Requirements.
2. Students may take up to 3 courses (9 credit hours) at the 500-level or above from course offerings outside of CAAM, with the approval of the student’s mentor.

Policies for the MCAAM Degree

Department of Computational and Applied Mathematics Graduate Program Handbook

The General Announcements (GA) is the official Rice curriculum. As an additional resource for students, the department of Computational and Applied Mathematics publishes a graduate program handbook, which can be found here: https://gradhandbooks.rice.edu/2020_21/Computational_Applied_Mathematics_Graduate_Handbook.pdf

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. Students are encouraged to meet with their academic program’s advisor when considering transfer credit possibilities.

Additional Information

For additional information, please see the Computational and Applied Mathematics website:
http://www.caam.rice.edu/

Opportunities for the MCAAM Degree

Fifth-Year Master’s Degree Option for Rice Undergraduate Students

Rice students have an option to pursue the Master of Computational and Applied Mathematics (MCAAM) degree by adding an additional fifth year to their four undergraduate years of science and engineering studies.

Advanced Rice undergraduate students in good academic standing may apply to the MCAAM degree program during their junior or senior year.
Upon acceptance, depending on course load, financial aid status, and other variables, they may then start taking some required courses of the master’s degree program. A plan of study will need to be approved by the student’s undergraduate advisor and the MCAAM program director.

As part of this option and opportunity, Rice undergraduate students:

- must complete the requirements for a bachelor’s degree and the master’s degree independently of each other (i.e. no course may be counted toward the fulfillment of both degrees).
- should be aware there could be financial aid implications if the conversion of undergraduate coursework to that of graduate level reduces their earned undergraduate credit for any semester below that of full-time status (12 credit hours).
- more information on this Undergraduate - Graduate Concurrent Enrollment opportunity, including specific information on the registration process can be found here (https://ga.rice.edu/undergraduate-students/academic-opportunities/undergraduate-graduate-concurrent-enrollment/).

**Additional Information**

For additional information, please see the Computational and Applied Mathematics website:
https://www.caam.rice.edu/