BACHELOR OF SCIENCE (BS) DEGREE WITH A MAJOR IN ASTROPHYSICS

Program Learning Outcomes for the BS Degree with a Major in Astrophysics

Upon completing the BS degree with a major in Astrophysics, students will be able to:

1. Demonstrate an understanding of fundamental concepts in Mechanics.
2. Demonstrate an understanding of fundamental concepts in Electromagnetism.
3. Demonstrate an understanding of fundamental concepts in Quantum Mechanics.
4. Be knowledgeable in fundamental topics in Astrophysics.
5. Demonstrate proficiency in research techniques and methodology under guidance of a faculty member.
6. Communicate scientific results both in writing and oral presentations.

Requirements for the BS Degree with a Major in Astrophysics

For general university requirements, see Graduation Requirements (ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements). Students pursuing the BS degree with a major in Astrophysics must complete:

- A minimum of 73 credit hours to satisfy major requirements.
- A minimum of 133 credit hours to satisfy degree requirements.
- A minimum of 60 credit hours outside of major requirements.
- A minimum of 40 credit hours taken at the 300-level or above.

Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MATH 101</td>
<td>SINGLE VARIABLE CALCULUS I</td>
<td>3</td>
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<tr>
<td>or MATH 105</td>
<td>AP/OTH CREDIT IN CALCULUS I</td>
<td></td>
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<tr>
<td>MATH 102</td>
<td>SINGLE VARIABLE CALCULUS II</td>
<td>3</td>
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<tr>
<td>or MATH 106</td>
<td>AP/OTH CREDIT IN CALCULUS II</td>
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<tr>
<td>MATH 211</td>
<td>ORDINARY DIFFERENTIAL EQUATIONS AND LINEAR ALGEBRA</td>
<td>3</td>
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<tr>
<td>or MATH 220</td>
<td>HONORS ORDINARY DIFFERENTIAL EQUATIONS</td>
<td></td>
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<tr>
<td>or MATH 221</td>
<td>HONORS CALCULUS III</td>
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<td>MATH 212</td>
<td>MULTIVARIABLE CALCULUS</td>
<td>3</td>
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<tr>
<td>or MATH 222</td>
<td>HONORS CALCULUS IV</td>
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<tr>
<td>CAAM 210</td>
<td>INTRODUCTION TO ENGINEERING COMPUTATION</td>
<td>3</td>
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</table>

Summary

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Total Credit Hours Required for the Major in Astrophysics</td>
<td>73</td>
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<tr>
<td>Total Credit Hours Required for the BS Degree with a Major in Astrophysics</td>
<td>133</td>
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</table>
Bachelor of Science (BS) Degree with a Major in Astrophysics

CAAM 336 DIFFERENTIAL EQUATIONS IN SCIENCE AND ENGINEERING 3

Total Credit Hours Required for the Major in Astrophysics 73

University Graduation Requirements (ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements) 60

Total Credit Hours 133

Footnotes and Additional Information

* Includes coursework completed as distribution credit, FWIS, LPAR, upper-level, residency (hours taken at Rice), 60 hours outside of the major (if applicable), and any additional academic program requirements. The “hours outside of the major” requirement may include all of the above university requirements.

1 PHYS 491 and PHYS 493 must be taken concurrently.
2 PHYS 492 and PHYS 494 must be taken concurrently.

Policies for the BS Degree with a Major in Astrophysics

Program Restrictions and Exclusions

Students pursuing the major in Astrophysics should be aware of the following program restriction:

• Students pursuing the major in Astrophysics may not additionally declare the minor in Physics.

Transfer Credit

For Rice University’s policy regarding transfer credit, see Transfer Credit (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 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.

Departmental Transfer Credit Guidelines

Students pursuing the major in Astrophysics should be aware of the following departmental 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 Physics and Astronomy website: https://physics.rice.edu/

Research in the Department of Physics and Astronomy

The Physics and Astronomy Department encourages undergraduate participation in research, both within the department and through extramural programs. For current opportunities, please visit the Department’s website and click on the Undergraduate Study link, at: https://www.physics.rice.edu/.

Additional Information

For additional information, please see the Physics and Astronomy website: https://physics.rice.edu/

Opportunities for the BS Degree with a Major in Astrophysics

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 (ga.rice.edu/undergraduate-students/honors-distinctions/university) (summa cum laude, magna cum laude, and cum laude) and Distinction in Research and Creative Work (ga.rice.edu/undergraduate-students/honors-distinctions/university). Some departments have department-specific Honors awards or designations.