BACHELOR OF ARTS (BA) DEGREE WITH A MAJOR IN STATISTICS

Program Learning Outcomes for the BA Degree with a Major in Statistics

Upon completing the BA degree with a major in Statistics, students will be able to:

1. Apply fundamental theory in probability and statistical inference.
2. Apply and evaluate statistical models.
3. Apply statistical computing for data analysis and data science.
4. Demonstrate competency as a professional statistician.
5. Effectively communicate as a professional statistician.

Requirements for the BA Degree with a Major in Statistics

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

- A minimum of 16 courses (49-51 credit hours) to satisfy major requirements.
- A minimum of 120 credit hours to satisfy degree requirements.
- A minimum of 60 credit hours outside of major requirements.
- A minimum of 12 courses (35 credit hours) at the 300-level or above.
- A maximum of 3 courses (9 credit hours) from study abroad or transfer credit. For additional departmental guidelines regarding transfer credit, see the Policies tab.

The courses listed below satisfy the requirements for this major. In certain instances, courses not on this official list may be substituted upon approval of the major’s academic advisor (or official certifier). Students and their academic advisors should identify and clearly document the courses to be taken.

### Summary

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td>Total Credit Hours Required for the Major in Statistics</td>
<td>49-51</td>
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<tr>
<td></td>
<td>Total Credit Hours Required for the BA Degree with a Major in Statistics</td>
<td>120</td>
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### Degree Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td>Core Requirements</td>
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<tr>
<td></td>
<td>Mathematics</td>
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<tr>
<td>MATH 101</td>
<td>SINGLE VARIABLE CALCULUS I</td>
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<tr>
<td>MATH 102</td>
<td>SINGLE VARIABLE CALCULUS II</td>
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<td>MATH 212</td>
<td>MULTIVARIABLE CALCULUS</td>
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<tr>
<td>CAAM 335</td>
<td>MATRIX ANALYSIS</td>
<td>3</td>
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or MATH 355 LINEAR ALGEBRA

### Elective Requirements

Select 6 courses from departmental (STAT) course offerings at the 300-level or above, including at least 3 from the following list of methodology/theory courses:

- STAT 411 ADVANCED STATISTICAL METHODS
- STAT 413 INTRODUCTION TO STATISTICAL MACHINE LEARNING
- STAT 418 PROBABILITY
- STAT 419 STATISTICAL INFERENCE
- STAT 421 APPLIED TIME SERIES AND FORECASTING
- STAT 425 INTRODUCTION TO BAYESIAN INFERENCE
- STAT 453 BIOSTATISTICS
- STAT 502 / COMP 502 / ELEC 502 NEURAL MACHINE LEARNING I
- STAT 541 MULTIVARIATE ANALYSIS
- STAT 545 GLM & CATEGORICAL DATA ANALYSIS

### Senior Capstone

STAT 450 SENIOR CAPSTONE PROJECT 3

Total Credit Hours Required for the Major in Statistics 49-51

University Graduation Requirements (ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements) * 69-71

Total Credit Hours 120
Footnotes and Additional Information
* Includes coursework completed as distribution credit, FWIS, LPAP, 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 With advisor approval, 1 course (3 credit hours) from departments other than Statistics may be used as an elective. The substitution course may not be used as a replacement for 1 of the 3 required methodology/theory courses listed above. STAT 305 and STAT 385 will not count as electives.

Policies for the BA Degree with a Major in Statistics

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: http://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 Statistics should be aware of the following departmental transfer credit guidelines:

• No more than 3 courses (9 credit hours) of transfer credit from U.S. or international universities of similar standing as Rice may apply towards the major.

• 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.

For additional information, please see the Statistics website: https://statistics.rice.edu/.

Opportunities for the BA Degree with a Major in Statistics

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.

Internship and Research Opportunities
The Department of Statistics encourages its major and minors to participate the practice of statistics through summer internships, employment and research. Information on current opportunities are posted here: https://statistics.rice.edu/undergraduate-program/opportunities. Students can also approach individual faculty about research opportunities in their group. An undergraduate advisor can talk with you about these and other possibilities.