B.S. in Data Science – Foundations Track (Effective Fall 2022)
This track emphasizes the underlying computer science, engineering, mathematics and statistics methodology and theory, and is especially recommended as preparation for graduate study in data science or related fields.

Preparatory Subject Matter (39 units)

- MAT 21A Calculus (4)
- MAT 21B Calculus (4)
- MAT 21C Calculus (4)
- MAT 22A Linear Algebra (3)
- ECS 17 Data, Logic, and Computing (4)
- ECS 32A Introduction to Programming (4)
- ECS 32B Introduction to Data Structures (4)
- STA 35A Statistical Data Science I (4)
- STA 35B Statistical Data Science II (4)
- STA 35C Statistical Data Science III (4)

Depth Subject Matter (52 units)

- ECS 116 Databases for Non-Majors (4)
- ECS 117 Introduction to Algorithms for Data Science (Pending Approval) (4)
- ECS 119 Data Processing Pipelines for Data Science (Pending Approval) (4)
- ECS 130 Scientific Computation OR MAT 167 Applied Linear Algebra (4)
- MAT 135A Probability OR STA 131A Introduction to Probability Theory (4)
- MAT 168 Optimization (4)
- STA 108 Linear Regression (4)
- STA 141A Fundamentals of Statistical Data Science (4)
- STS 101 Data & Society (4)

Choose One:
- ECS 111 Machine Learning for Non-Majors (Pending Approval) (4)
- MAT 170 Mathematics for Data Analytics & Decision Making (4)
- STA 142A Introduction to Statistical Learning (4)

Three elective courses in a related discipline. (12)
Three upper division courses approved by major advisor; they should be in statistics, mathematics, computer science or cover quantitative aspects of a substantive discipline.
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<th>Year</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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<tr>
<td>Freshman</td>
<td>MAT 21A</td>
<td>MAT 21B</td>
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<td>STA 35A</td>
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<td>Senior</td>
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<td>ECS 111 or MAT 170 or STA 142A</td>
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