# Data Science, B.S.

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students majoring in data science. Students work with their advisors on individual graduation plans.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Data Science, B.S.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH:1550</td>
<td>Engineering Mathematics I: Single Variable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>RHET:1030</td>
<td>Rhetoric</td>
<td>3 - 4</td>
</tr>
<tr>
<td>or ENGL:1200</td>
<td>The Interpretation of Literature</td>
<td></td>
</tr>
<tr>
<td>CS:1210</td>
<td>Computer Science I: Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>GE CLAS Core: World Languages First Level Proficiency or elective course</td>
<td>4 - 5</td>
<td></td>
</tr>
<tr>
<td>CSI:1600</td>
<td>Success at Iowa</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>17-19</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH:1560</td>
<td>Engineering Mathematics II: Multivariable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>STAT:2100</td>
<td>Statistical Methods and Computing</td>
<td>3</td>
</tr>
<tr>
<td>CS:2210</td>
<td>Discrete Structures</td>
<td>3</td>
</tr>
<tr>
<td>ENGL:1200 or RHET:1030</td>
<td>The Interpretation of Literature or Rhetoric</td>
<td>3 - 4</td>
</tr>
<tr>
<td>GE CLAS Core: World Languages Second Level Proficiency or elective course</td>
<td>4 - 5</td>
<td></td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>17-19</td>
</tr>
<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<td></td>
</tr>
<tr>
<td>STAT:3200</td>
<td>Applied Linear Regression</td>
<td>3</td>
</tr>
<tr>
<td>CS:2230</td>
<td>Computer Science II: Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>GE CLAS Core: Natural Sciences without Lab</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GE CLAS Core: Historical Perspectives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GE CLAS Core: World Languages Second Level Proficiency or elective course</td>
<td>4 - 5</td>
<td></td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
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<td>17-18</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>CS:3330</td>
<td>Algorithms</td>
<td>3</td>
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<tr>
<td>MATH:2700</td>
<td>Introduction to Linear Algebra</td>
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<tr>
<td>GE CLAS Core: International and Global Issues</td>
<td>3</td>
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<tr>
<td>GE CLAS Core: World Languages Fourth Level Proficiency or elective course</td>
<td>4 - 5</td>
<td></td>
</tr>
<tr>
<td>Elective course</td>
<td></td>
<td>3</td>
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<tr>
<td><strong>Total Hours</strong></td>
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<td>17-18</td>
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## Third Year

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
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<td></td>
</tr>
<tr>
<td>STAT:3100</td>
<td>Introduction to Mathematical Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>CS:4400</td>
<td>Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>GE CLAS Core: Natural Sciences with Lab</td>
<td>4</td>
<td></td>
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<tr>
<td>GE CLAS Core: Social Sciences</td>
<td>3</td>
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</tr>
<tr>
<td>Elective course</td>
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<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
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<td>16</td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>STAT:4540 or CS:5430</td>
<td>Statistical Learning or Machine Learning</td>
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<tr>
<td>STAT:3101</td>
<td>Introduction to Mathematical Statistics II</td>
<td>3</td>
</tr>
<tr>
<td>STAT:4580</td>
<td>Data Visualization and Data Technologies</td>
<td>3</td>
</tr>
<tr>
<td>GE CLAS Core: Literary, Visual, and Performing Arts</td>
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<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
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## Fourth Year

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major: advanced elective I course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Major: advanced elective II course</td>
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<tr>
<td>GE CLAS Core: Diversity and Inclusion</td>
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<tr>
<td>DATA:4880</td>
<td>Data Science Creative Component</td>
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<tr>
<td>Elective course</td>
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<tr>
<td><strong>Hours</strong></td>
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<td>13</td>
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<tr>
<td><strong>Spring</strong></td>
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<td></td>
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<tr>
<td>Major: advanced elective III course</td>
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<tr>
<td>GE CLAS Core: Values and Culture</td>
<td>3</td>
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<tr>
<td>DATA:4890</td>
<td>Data Science Practicum</td>
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<tr>
<td>Elective course</td>
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<tr>
<td>Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Hours</strong></td>
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<td>12</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
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<td>124-130</td>
</tr>
</tbody>
</table>

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**Notes:**

- a: Fulfills a major requirement and may fulfill a GE requirement.
- b: Enrollment in math courses requires completion of a placement exam.
- c: Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d: GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e: Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f: Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- g: Typically STAT:4540 is offered in fall semesters only and CS:5430 is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h: Typically this course is offered in spring semesters only.
- i: Students should select at least one computer science course and one statistics course for their advanced electives.

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Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.