

# 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.

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
MATH:1550	Engineering Mathematics I: Single Variable Calculus <sup>a, b</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CS:1210	Computer Science I: Fundamentals	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-19</b>
<b>Spring</b>		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
STAT:2010	Statistical Methods and Computing	3
CS:2210	Discrete Structures	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>17-19</b>
<b>Second Year</b>		
<b>Fall</b>		
STAT:3200	Applied Linear Regression	3
CS:2230	Computer Science II: Data Structures	4
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
CS:3330	Algorithms	3
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>17-18</b>

### Third Year

#### Fall

STAT:3100	Introduction to Mathematical Statistics I <sup>f</sup>	3
CS:4400	Database Systems	3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

#### Spring

CS:5430 or STAT:4540	Machine Learning <sup>g</sup> or Statistical Learning	3
STAT:3101	Introduction to Mathematical Statistics II <sup>h</sup>	3
STAT:4580	Data Visualization and Data Technologies <sup>h</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>q</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

### Fourth Year

#### Fall

Major: advanced elective I course <sup>i</sup>		3
Major: advanced elective II course <sup>i</sup>		3
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
DATA:4880	Data Science Creative Component	1
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>

#### Spring

Major: advanced elective III course <sup>i</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
DATA:4890	Data Science Practicum	2
Elective course <sup>e</sup>		1
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		

**Hours** **12**

**Total Hours** **124-130**

- a Enrollment in math courses requires completion of a placement exam.
- b Fulfills a major requirement and may fulfill a GE requirement.
- 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. Check MyUI for course availability since offerings are subject to change.
- i Students should select at least one computer science course and one statistics course for their advanced electives.

- j 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.