

# Data Science, BS

## 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, BS

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:1210	Computer Science I: Fundamentals	4
RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or Interpreting Literature	3 - 4
MATH:1550	Engineering Calculus I <sup>b</sup>	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	1
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or Interpreting Literature	3 - 4
STAT:2010	Statistical Methods and Computing	3
CS:2210	Discrete Structures	3
MATH:1560	Engineering Calculus II	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>		
CS:2230	Computer Science II: Data Structures	4
GE CLAS Core: Understanding Cultural Perspectives <sup>d</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: World Languages Third Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>e</sup>		3
<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
DATA:3200	Applied Linear Regression	3
<b>Hours</b>		<b>17-18</b>

### Third Year

<b>Fall</b>		
STAT:3100	Introduction to Mathematical Statistics I <sup>f</sup>	4
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: Social Sciences <sup>d</sup>		3
CS:5430 or DATA:4540	Machine Learning <sup>f</sup> or Statistical Learning	3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>17</b>

### Spring

DATA:4580	Data Visualization and Data Technologies <sup>g</sup>	3
STAT:3101	Introduction to Mathematical Statistics II <sup>g</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>g</sup>		3
CS:4400	Database Systems	3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

### Fourth Year

<b>Fall</b>		
DATA:4890	Data Science Practicum	3
Major: advanced elective I course <sup>h</sup>		3
Major: advanced elective II course <sup>h</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

### Spring

Major: advanced elective III course <sup>h</sup>		3
GE CLAS Core: Values and Society <sup>d</sup>		3
Elective course <sup>e</sup>		1
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

<b>Hours</b>		<b>13</b>
<b>Total Hours</b>		<b>127-133</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative or Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Society.

b Enrollment in math courses requires completion of a placement exam.

c Students who have completed four levels of a single language or two levels of two different languages in high school or college have satisfied the GE CLAS Core World Languages requirement. Students who have completed three levels of a single language may complete a fourth-level course in the same language or may choose an approved World Language and Cultural Exploration course. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Contact your academic advisor or CLAS Undergraduate

Programs Office with questions concerning the World Languages requirement.

- 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 this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h Students should select at least one computer science course and one statistics course for their advanced electives.
- i Please see Academic Calendar, on 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 Degree Services.