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

Academic Career

Any Semester

GE CLAS Core: Sustainability

First Year

Fall

CS:1210 Computer Science I: Fundamentals 4
ENGL:1200 or RHET:1030 The Interpretation of Literature 3 - 4
MATH:1550 Engineering Mathematics I: Single Variable Calculus 4
GE CLAS Core: World Languages First Level Proficiency or elective course 4 - 5
CSI:1600 Success at Iowa 2

Hours 17-19

Spring

RHET:1030 or ENGL:1200 Rhetoric or The Interpretation of Literature 3 - 4
STAT:2010 Statistical Methods and Computing 3
CS:2210 Discrete Structures 3
MATH:1560 Engineering Mathematics II: Multivariable Calculus 4
GE CLAS Core: World Languages Second Level Proficiency or elective course 4 - 5

Hours 17-19

Second Year

Fall

STAT:3200 Applied Linear Regression 3
CS:2230 Computer Science II: Data Structures 4
GE CLAS Core: Diversity and Inclusion 3
GE CLAS Core: Natural Sciences without Lab 3
GE CLAS Core: World Languages Second Level Proficiency or elective course 4 - 5

Hours 17-18

Spring

CS:3330 Algorithms 3
MATH:2700 Introduction to Linear Algebra 4
GE CLAS Core: International and Global Issues 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course 4 - 5
Elective course 3

Hours 17-18

Third Year

Fall

STAT:3100 Introduction to Mathematical Statistics I 3
CS:4400 Database Systems 3
GE CLAS Core: Natural Sciences with Lab 4
GE CLAS Core: Social Sciences 3
Elective course 3

Hours 16

Spring

STAT:4540 or CS:5430 Statistical Learning or Machine Learning 3
STAT:3101 Introduction to Mathematical Statistics II 3
STAT:4580 Data Visualization and Data Technologies 3
GE CLAS Core: Literary, Visual, and Performing Arts 3
Elective course 3

Hours 17-18

Fourth Year

Fall

DATA:4880 Data Science Creative Component 1
Major: advanced elective I course 3
Major: advanced elective II course 3
GE CLAS Core: Historical Perspectives 3
Elective course 3

Hours 15

Spring

DATA:4890 Data Science Practicum 2
Major: advanced elective III course 3
GE CLAS Core: Values and Culture 3
Elective course 1
Elective course 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) 12

Hours 12

Total Hours 124-130

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 and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
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. 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.