

Data Science in Analytics and Decision-Making (Minor)

The Undergraduate Minor of Data Science in Analytics and Decision-Making is a 15 credit interdisciplinary credential that offers a path towards developing essential skills in data science with depth in Industrial and Systems Engineering (ISE) content. Students who pursue this minor will have the opportunity to learn from data science instructors & practitioners and ISE faculty in industry and academia, alongside their peers from various colleges. Students will pursue courses in data management, communication, applications, ethics, engineering, and more, in addition to choosing from electives of interest.

Plan Requirements

Required Courses

Code	Title	Hours	Counts towards
Required DSC Courses: At least one course from each category			
Data Communication			
DSC 202	Introduction to Data Visualization		
DSC 205	Data Communication		
Ethics, Policy, & Privacy			
DSC 225	Data Science for Social Good		
Data Management & Analysis			
DSC 406	Exploratory Data Analysis for Big Data		
Machine Learning and AI			
DSC 412	Exploring Machine Learning		
Electives or Internships & Capstones			
DSC 405	Data Wrangling and Web Scraping		
DSC 410	Data Internship Preparation for Social Impact		
DSC 201	Introduction to R/Python for Data Science (Students cannot count both DSC 201 and ISE 135 towards the minor)		

Permanent DSC courses not listed here and not used for the first four categories can be used to satisfy the elective or internships/capstones requirement.

Required Depth Courses: At least three courses from the following		9
ISE 135	Computer-Based Modeling for Industrial Engineering (Students cannot count both DSC 201 and ISE 135 towards the minor)	
ISE 361	Deterministic Models in Industrial Engineering (Requires ISE 135; or Instructor permission and DSC 201; or Instructor permission and introductory knowledge of Python programming)	
ISE 417	Database Applications in Industrial & Systems Engineering	
ISE 435	Python Programming for Industrial & Systems Engineers	
ISE 437	Data Analytics for Industrial Engineering	
ISE 447	Applications of Data Science in Healthcare	
BAE 455	R Coding for Data Management and Analysis	
ECE 411	Introduction to Machine Learning	

NOTE 1: Students in the ISE major and ISE minor cannot count the following courses towards the data science minor: ISE 135, ISE 361.

NOTE 2: Students pursuing multiple Data Science Academy credentials must have at least 2 distinct 1-credit DSC courses and 2 distinct 3-credit depth courses between any two credentials (8 distinct credits total).

NOTE 3: Per university requirements courses already used to satisfy two or more credit requirements cannot also be used to satisfy the data science minor (or any third requirement).

Total Hours

15