to the Mandala for the description of the

Data Science in Engineering Analytics and Decision-Making (Minor)

The Data Science in Engineering Analytics and Decision-Making minor 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 engineering 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.

Contact

Data Science and AI Academy

datascienceacademy@ncsu.edu

Plan Requirements

Required Courses

Code	Title	Hours	
Boguirod DSC (The	nouis	
Deta Communica	tion	JIY U	
	Introduction to Data Visualization		
DSC 202			
DSC 205	Data Communication		
Ethics, Policy, &	Privacy		
DSC 220			
DSC 225	Data Science for Social Good		
DSC 235	Introduction to Data Science for Cybersecurity		
Data Manageme	nt & Analysis		
DSC 240			
DSC 406	Exploratory Data Analysis for Big Data		
Machine Learnin	g and Al		
DSC 412	Exploring Machine Learning		
Electives or Inter	nships & 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 c	an be used to satisfy the elective or internships/		
capstones requir	ement.		
Required Depth Courses: At least three courses from the			
following			
ISE 135	Computer-Based Modeling for Industrial		
	Engineering (Students cannot count both DSC and ISE 135 towards the minor)	201	

ISE 361	(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 455/555	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

004

15

1