Data Science in K-12 Education (Minor)

The Undergraduate Minor of Data Science in K-12 Education is a 15 credit credential that offers a path towards developing essential skills in data science with depth in education content. Students who pursue this minor will have the opportunity to learn from data science instructors & practitioners, and interdisciplinary faculty in industry & academia, alongside their peers from various colleges. Students will pursue courses in data management, communication, applications, ethics, and education, among other electives and focus areas of choice.

Contact

Data Science and AI Academy

datascienceacademy@ncsu.edu

Plan Requirements

Required Courses

Code	Title	Hours
Required DSA Courses: Six credits, at least one course from each category		**6**
Categories and Corresponding Category Numbers (in parentheses)		
Data Management & Analysis (1)		
Data Communication (2)		
Ethics, Policy, & Privacy (3)		
Machine Learning and AI (4)		
Electives or Internships & Capstones (5)		
Course Options and Corresponding Category Numbers		
DSA 201	Introduction to R/Python for Data Science [(1)]	
DSA 202	Introduction to Data Visualization [(2)]	
DSA 205	Data Communication [(2)]	
DSA 220	Introduction to AI Ethics [(3), (4)]	
DSA 225	Data Science for Social Good [(3)]	
DSA 235	Introduction to Data Science for Cybersecurity [(3)]	
DSA 240	Measuring Success [(1), (3)]	
DSA 405	Data Wrangling and Web Scraping [(1)]	
DSA 406	Exploratory Data Analysis for Big Data [(1)]	
DSA 410	Data Internship Preparation for Social Impact [(5)]	
DSA 412	Exploring Machine Learning [(4)]	
DSA 295	Introductory Special Topics in Data Science See semesterly list of special topics courses accepted within a category	
DSA 495	Special Topics in Data Science See semesterly list of special topics courses accepted within a category	
DSA 595	Graduate Special Topics in Data Science See semesterly list of special topics courses accepted within a category	
Courses not used for a category requirement may be applied to fulfill "Electives or Internships & Capstones (5)"		
Required Depth Courses		**9**
Mathematics & Statistics Courses (Choose 1)		
MA 103	Topics in Contemporary Mathematics	
MA 305	Introductory Linear Algebra and Matrices	
or MA 405	Introduction to Linear Algebra	
ST 101	Statistics by Example	
ST 311	Introduction to Statistics Course credit from AP Statistics can be substituted for this course and requirement	
STEM Education Courses (Choose 1)		
ELM 310	Children's Thinking and Additive Reasoning	
EMS 373	Instructional Materials in Science	
EMS 480	Teaching Mathematics with Technology	
TDE 331	Technology Through Engineering and Design II	
TDE 385	Robotics Education	
Interdisciplinary Society, Data, & Technology Courses (Choose 1)		
PHI 227	Data Ethics	
PP 232	Big Data in Your Pocket: Call it a Smartphone	
STS 302	Contemporary Science, Technology and Human Values	
STS 405	Technology and American Culture	
NOTE 1: Certain courses may have prerequisites. Please check the university catalog to plan accordingly and/or contact the Minor Coordinator in the DSA.		
NOTE 2: Students pursuing multiple Data Science and AI Academy credentials must have at least 2 distinct 1-credit DSA courses and 2 distinct 3-credit depth courses between any two credentials (8 distinct credits total).		
Total Hours		**15**