

Data Science Major

Major Requirements

Degree Type: B.S.
Minimum Credits Required: 120

University Degree Requirements

For complete details on these and other university degree requirements, refer to the Degree and Graduation Requirements (<https://catalog.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation/>) section in the University Catalog.

1. Minimum of 120 semester credits (some programs may exceed this minimum).
2. Complete the University General Education requirements.
3. Minimum institutional GPA of 2.00 based on work taken at NDSU.
4. Minimum of 30 credits in resident at NDSU.
5. Minimum of 36 upper level credits (courses numbered 300 or higher).
6. Students with transfer credit must meet the NDSU 30 credits in residence (#4). Of these 30 credits in residence, a minimum of 15 credits must be in courses numbered 300 or above, and 15 credits must be in the student's declared major curricula.

University General Education Requirements

A list of university approved general education courses along with the administrative policies governing the requirement and the categories is available here (<https://catalog.ndsu.edu/academic-policies/undergraduate-policies/general-education/>).

Code	Title	Credits
Category C: Communication		12
Category R: Quantitative Reasoning		3
Category S: Science and Technology		10
Category A: Humanities and Fine Arts		6
Category B: Social and Behavioral Sciences		6
Category W: Wellness		2
Category D: Cultural Diversity		
Category G: Global Perspectives		
Category L: Digital Literacy		
Total Credits		39

Code	Title	Credits
Major Core Requirements		
Select one from the following:		3
CSCI 114	Computer Applications	
TL 116	Business Software Applications	
CSCI 159	Computer Science Problem Solving	
CSCI 277	Introduction to UNIX	
ENGL 321	Writing in the Technical Professions	3
or ENGL 324	Writing in the Sciences	
BUSN 380	Business Analytics: Business Problem Solving with Spreadsheets	3
MATH 165	Calculus I	4
MATH 166	Calculus II	4
STAT 367	Probability	3
STAT 368	Statistics	3
STAT 412	Statistics for Data Science using R	3
STAT 460	Applied Survey Sampling	3
MIS 340	Applied Business Intelligence	3
MIS 479		3
CSCI 312	Survey of Programming Languages	3

CSCI 222	Discrete Mathematics	3
CSCI 227	Computing Fundamentals in Python I	3
CSCI 228	Computing Fundamentals in Python II	3
CSCI 161	Computer Science II	4
CSCI 366	Database Systems	3
Select one from the following:		3
PHIL 216	Business Ethics	
CSCI 489	Social Implications of Computers	
ENGR 327	Ethics, Engineering, and Technology	
Major Track		
Select one track from below to complete the major		12
Total Credits		69

Track One: Artificial Intelligence

Code	Title	Credits
Select 12 credits from the following:		12
CSCI 313	Software Development with Frameworks	
CSCI 420	Introduction to Data Science in Python	
CSCI 422	Fundamentals of Data Engineering	
CSCI 425	Machine Learning	
CSCI 426	Introduction to Artificial Intelligence	
CSCI 428	Artificial Intelligence, Ethics, and the Environment	
CSCI 450	Cloud Computing	
CSCI 479	(Introduction to Data Mining)	
Total Credits		12

Track Two: Statistical Data Analytics

Code	Title	Credits
STAT 462	Introduction to Experimental Design	3
STAT 463	Nonparametric Statistics	3
STAT 464	Discrete Data Analysis	3
STAT 470	Statistical SAS Programming	3
Total Credits		12

Track Three: Business Analytics

Code	Title	Credits
MRKT 466	Digital Marketing Analytics	3
SCM 330	Supply Chain Analysis and Analytics	3
SCM 455	Supply Chain Technology Enablers	3
MIS 350	Enterprise Systems	3
Total Credits		12

Track Four: Generalist

Code	Title	Credits
Select any courses from Tracks 1-3 or below for a total of 12 credits.		12
IME 470	Operations Research I	
Total Credits		12