COLLEGE OF INFORMATICS
COMPUTATION ■ INFORMATION ■ COMMUNICATION

Bachelor of Science in:
Data Science

For Students Following the:
2024-2025 catalog

Name:	
Student ID:	
Catalog Year:	

SUPPORT COURSES (3 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
PHI 310	Information Ethics	Sophomore Standing or Instructor Consent	3			Successful PHI 310 DSST

INFORMATICS CORE COURSES (9 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
INF 120	Elementary Programming (or placement)	MAT 102 or MAT 114 or placement	3			Successful INF 120 CPLE
INF 128	Principles of Informatics		3			
INF 286	Introduction to Web Development	MAT 103 & pre-req or co-req of INF 110 or INF 120 or CSC 260	3			Successful INF 286 CPLE

COMPUTER SCIENCE CORE COURSES (15 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
CSC 260	Object-Oriented Programming I	MAT 103 & INF 110 or INF 120 or CSC 270	3			Successful CSC 260 CPLE
CSC 360	Object-Oriented Programming II	CSC 260 & MAT 119 (≥ B-)	3			Successful CSC 360 CPLE
CSC 350	Database Programming	CSC 360	3			
CSC 364	Data Structures and Algorithms	CSC 360	3			
CSC 425	Artificial Intelligence	CSC 364 & STA 205, STA 205R or STA 250	3			

CYBERSECURITY COURSES (3 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
CYS 320	Info. Assurance, Security & Privacy	CSC 260	3			

MATH AND STATISTICS COURSES (18 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
MAT 128	Calculus A	MAT 119 (≥ B-)	3			
MAT 227	Calculus B	MAT 128	3			
MAT 228	Calculus C	MAT 227	3			

OR

MAT 129	Calculus I	MAT 119 (≥ B-)	4			Successful MAT 129 CLEP
MAT 229	Calculus II	MAT 129 or MAT 227	5			

AND

MAT 234	Linear Algebra	MAT 228 or MAT 229	3			
STA 250	Probability and Statistics I	MAT 129 or Co-req MAT 227	3			
STA 305	Intermediate Statistical Methods with R	STA 205 or STA 205R or STA 250	3			

DATA SCIENCE CORE COURSES (16-19 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
DSC 101	Introduction to Data Science	Freshman Standing or Dept. Approval	**1**			
DSC 200	Data Wrangling	INF 286 & STA 205 or STA 205R or STA 250 & INF 120 or CSC 260 & pre-req or co-req of DSC 101 or INF 282	**3**			
DSC 311	Data Analytics & Visualization	DSC 200 & STA 250	**3**			
DSC 411	Data Mining	DSC 311 & CSC 364 & STA 250	**3**			
DSC 421	Big Data	DSC 411 & pre-req or co-req of CSC 350	**3**			
DSC 496	Data Science Capstone	DSC 421 & co-req of BIO 292 or DSC 292	**3**			
BIO 292 **OR** DSC 292	Introduction to Research in Biology Introductory Research Experience in DSC	Instructor Consent Department Consent	**0** **0 - 3**			

Students will select ONE of the following application areas to fulfill their major requirements.

BUSINESS INFORMATION SYSTEMS APPLICATION AREA (12 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
BIS 300	Management Information Systems	Sophomore Standing; & STA 205 or STA 205R or STA 250; & BIS 101 or Department Consent	**3**			**Successful BIS 300 DSST**
BIS 330	IT Project Management	BIS 300	**3**			
BIS 310	Systems Analysis & Design	INF 110 or INF 120, BIS 300, & Junior Standing	**3**			
BIS 460	Prescriptive Analytics	BIS 380 or DSC 311 (pre-req or co-req)	**3**			

GEOGRAPHIC INFORMATION SYSTEMS APPLICATION AREA (13 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
GEO 415	Cartography	Sophomore Standing	**3**			
GEO 418	Geographic Information Systems	Sophomore Standing	**4**			
GEO 419	Remote Sensing of Environment	Sophomore Standing	**3**			
GEO 518	Geographic Information Analysis	GEO 418	**3**			

BIOLOGICAL SCIENCES APPLICATION AREA (11-12 Hours)						
Course		Pre-req	Credits	Term	Grade	Notes
BIO 150 w/ BIO 150L	Introduction to Biology I and Laboratory	MAT 101 or Placement & co-req of BIO 150L	**4**			
BIO 151 w/ BIO 151L	Introduction to Biology II and Laboratory	BIO 150 & co-req of BIO 151L	**4**			
BIO 304 **OR** BIO 349 w/ BIO 349L	General Ecology Genetics and Laboratory	BIO 150 & BIO 151 BIO 151 & CHE 121 & co-req of BIO 349L	**3** **4**			

ALL DSC Students will select ONE of the following guided electives to fulfill their major requirements.

GUIDED ELECTIVES (3 Hours) - Choose 1						
Some electives are offered for variable credit; you will need a minimum of 3 credit hours from the elective section. *DSC 494 may be repeated for credit toward the guided electives if topics vary.* *No more than 6 hours of DSC 392/399/492/499 can count toward the DSC major.*						
Course		**Pre-req**	**Credits**	**Term**	**Grade**	**Notes**
ASE 230	Server-Side Programming	INF 286 & CSC 260 or CIT 383 (pre-req or co-req)	**3**			
CSC 362	Computer Systems	CSC 360	**3**			
CSC 402	Advanced Programming Methods	CSC 362 & CSC 364	**3**			
CSC 426	Deep Learning	MAT 227 & CSC 364 & Junior Standing	**3**			
CSC 450	Database Systems	CSC 350 & CSC 364	**3**			
CSC 460	Operating Systems	CSC 362 & CSC 364	**3**			
CSC 464	Design & Analysis of Algorithms	CSC 364 & MAT 385	**3**			
CSC 482	Computer Security	CSC 362	**3**			
DSC 396	Data Science Practicum	DSC Major, Junior Standing & Department Consent	**0 - 3**			
DSC 431	Network Analysis	STA 250, MAT 234, & CSC 364	**3**			
DSC 494	Advanced Topics: Data Science	Varies with Topic	**1 - 3**			
DSC 499	Advanced Independent Study: Data Science	Department Consent	**1 - 3**			
MAT 325	Differential Equations	MAT 228 or MAT 229	**3**			
MAT 329	Calculus III	MAT 228 or MAT 229	**4**			
MAT 375	Applied Mathematical Models	MAT 129 or MAT 227 & STA 205 or STA 250	**3**			
STA 312	Elementary Survey Sampling	STA 305	**3**			
STA 316	Regression Analysis	STA 305	**3**			
STA 317	Introduction to Time Series Analysis	STA 305 or STA 316 or STA 341	**3**			
STA 327	Categorical Data Analysis	STA 305	**3**			
STA 341	Statistics II	STA 250	**3**			
STA 360	Statistical Computing	STA 305 or any 300 level STA course or Instructor Consent	**3**			
STA 365	Statistics with Simulation & Resampling	STA 250	**3**			
STA 370	Introduction to Statistical Consulting	Instructor Consent & STA 314 or STA 341	**3**			

Students must have a grade of "C-" or better to meet pre-requisites for all courses unless otherwise indicated. Students must earn a grade of "C-" or better and a 2.00 GPA in all courses that apply to the major.
Please consult with your advisor and the appropriate University Course Catalog for all other degree requirements.