

**College of Basic and Applied Sciences
Upper Division Form 2020-2021 Catalog**

Student name _____ Student # _____

Major **DATA SCIENCE** Minor _____ (Optional)

Concentration _____ E-mail _____

Instructions: For students graduating in Summer 2020 or later. One (1) copy signed by major and minor advisors should be filed in DSB 120 three semesters before anticipated graduation. An Intent to Graduate form should also be filed in DSB 120 at the time of Upper Division Form submission.

General Education	Course	Semester	Grade	Prerequisites/Notes	Credit Hours
COMMUNICATION (9 hours)	ENGL 1010			Must earn a grade of C- or better	3
	ENGL 1020			Must earn a grade of C- or better	3
	COMM 2200				3
HISTORY (6 hours) Choose two: HIST 2010, HIST 2020, HIST 2030					3
					3
HUMANITIES AND/OR FINE ARTS (9 hours) Choose one: ENGL 2020, 2030, HUM 2610. Choose two different subjects: ANTH 2210, ART 1030 or 1920, DANC 1000, HIST 1010, 1020, 1110, 1120, MUS 1030, PHIL 1030, THEA 1030					3
					3
					3
MATHEMATICS (3 hours) Choose one: MATH 1010, 1530, 1630, 1710, 1720, 1730, 1810, 1910				MATH 1910 recommended; required as supporting course.	3
NATURAL SCIENCES (8 hours) Choose two different subjects: ASTR 1030/1031, BIOL 1030/1031, BIOL 1110/1111, BIOL 2010/2011, BIOL 2020/2021, CHEM 1010/1011, CHEM 1030/1031, CHEM 1110/1111, GEOL 1030/1031, GEOL 1040/1041, PGEO 1030, PSCI 1030/1031, PSCI 1130/1131, PHYS 1110, PHYS 2010/2011, PHYS 2110/2111					4
					4
SOCIAL/BEHAVIORAL SCIENCES (6 hours) Choose two different subjects: AAS 2100, ANTH 2010, ECON 2410 , ECON 2420, GEOG 2000, GS 2010, HLTH 1530/1531, EMC/JOUR/RIM 1020, PS 1010, PS 1005, PSY 1410, RS 2030, SOC 1010, SOC 2010, WGST 2100				ECON 2410 recommended; required as supporting course	3
					3
Hours Required					41

Major Courses -	Course	Semester	Grade	Prerequisites/Notes	Credit Hours
Statistics – choose one: MATH 1530, MATH 2050, or BIA 2610					3
Data Analysis	MATH 2110			Prerequisite or corequisite: MATH 1530 or MATH 2050 or equivalent	1
Applied Statistics II	MATH 2530			MATH 1530 or MATH 2050 or equivalent	3
Introduction to Business Analytics	BIA 3620			BIA 2610 or MATH 1530	3
Database Design and Development	INFS 4790			Junior Standing	3
Computer Science I	CSCI 1170			MATH 1730 with a C (2.0) or higher, ACT MATH of 26, or Calculus Placement test with satisfactory score.	4
Computer Science II	CSCI 2170			CSCI 1170 and eligibility for MATH 1910	4
Issues in Data Science	DATA 1500				3
Data Cleansing and Feature Engineering	DATA 3500			CSCI 1170	3
Predictive Analytics	DATA 3550			CSCI 1170	3
Data Science Capstone	DATA 4950			Senior Standing	3

Major requirements continued on next page

1. Degrees require a minimum of 120 semester hours completed with a cumulative and major GPA of 2.0 or higher. Minimum of 36 upper-division hours (3000/4000 level) and a minimum of 50 senior college hours (earned at four-year University) also required.
2. A minimum of 12 credits must be earned at the 3000/4000 level in each major

Major Courses continued - Must have a C (2.0) or better in all major courses					
Data Science Cognate – 12 credits. Choose ONE cognate and complete courses in chosen cognate; see Advisor.	Course	Semester	Grade	Prerequisites/Notes	Credit Hours
Inferential Thinking: Advanced Data Analysis Techniques	MATH 2010			MATH 1910	3
	STAT 4360			MATH 2050 or equivalent	3
	STAT 4380			MATH 2050 or equivalent	3
	STAT 4700				3
Business Intelligence and Analytics: Analyze and summarize data through dynamic visualizations for business decisions.	BIA 4010			BIA 3620/3621	3
	BIA 3470				3
	STAT 4700				3
	INFS 4900			6 hrs INFS and Junior standing	3
Machine Learning: Automated Data Modeling Techniques	CSCI 3080			CSCI 1170 and MATH 1910	3
	CSCI 3110			CSCI 2170 and CSCI 3080	3
	CSCI 4350			Fall only; CSCI 3110 and CSCI 3080	3
	CSCI 4850			Spring only; CSCI 3080	3
Hours Required					45
Supporting and Elective Courses					
Calculus I	MATH 1910			Pre-req: MATH 1730 with a C (2.0) or higher, ACT MATH of 26, or Calculus Placement test with satisfactory score. Credits can count in general education	0-4
Macroeconomics	ECON 2410			Credits can count in general education	0-3
Data Science Electives: Complete 12 credits from approved list: CSCI 3130, CSCI 3240, CSCI 4300, CSCI 4330, DATA 4500, ECON 2420, ECON 4620, STAT 4600 or ACSI 4600 or courses from cognate areas not selected above *See Pipeline for schedule of course offerings and pre-requisite requirements.	Course	Semester	Grade	Prerequisites/Notes	Credit Hours
					3
					3
					3
					3
Data Science Elective Hours Required					12
Elective Courses – 22 additional credits needed to reach 120 required for graduation; 36 total credits must be earned at 3000/4000 level					
Total Supporting and Elective Hours Required					34
Minor-optional but strongly recommended; see Advisor for strategic use of Data Science Electives above					
Course	Semester	Grade	Prerequisites/Notes		Credit Hours
Hours Required					
Major Signature					
					Date