



**ARKANSAS STATE
UNIVERSITY**

**Eight-Semester Degree Plan
Bachelor of Science in Data Science and Data Analytics
2022-2023**

Data Science Emphasis

Year 1							
Fall Semester				Spring Semester			
Course No.	Course Name	Hrs	Gen Ed	Course No.	Course Name	Hrs	Gen Ed
CS 1093 MATH 1093	Choose one: Making Connections Making Connections	3		MATH 1054	Precalculus Mathematics	4	
MATH 1023	College Algebra	3	X	ENG 1013	Composition II	3	X
ENG 1003	Composition I	3	X	PHIL 1103	Intro to Philosophy	3	X
<u>Life Science Gen. Ed.</u> BIOL 1003/ 1001 BIOL 1033/ 1001 BIOL 1063/ 1001 BIO 1503/ 1501 BIO 2013/ 2011 BIO 2103/ 2101 BIO 2203/ 2201	Choose one: Biological Science/ Lab People & Environment/ Lab Biology of Plants/ Lab Biology of the Cell/ Lab Microbio... Nursing & Allied Health/ Lab Human Anatomy & Physiology I/ Lab	4	X	<u>Gen Ed Social Science*</u> GEO 2613 HIST 1013 HIST 1023 SOC 2213 PSY 2013 POSC 1003 CMAC 1003	Choose one: Intro to Geography World Civ. to 1660 World Civ. Since 1660 Intro to Sociology Intro to Psychology Intro to Politics Intro to Mass Communication	3	X
HIST 2763 HIST 2773 POSC 2103	Choose one: U.S. to 1876 U.S. since 1876 Intro to U.S. Government	3	X	COMS 1203	Oral Communication	3	X
Total Hours		16		Total Hours		16	
Year 2							
Fall Semester				Spring Semester			
Course No.	Course Name	Hrs	Gen Ed	Course No.	Course Name	Hrs	Gen Ed
MATH 2204	Calculus I	4		MATH 2214	Calculus II	4	
AGST 3503	Geospatial Data Applications (DSDA 101)	3		STAT 3233	Applied Statistics I	3	
CS 1114	Concepts of Programming	4		MUS 2503 or THEA 2503 or ART 2503	Fine Arts-Musical or Fine Arts-Theatre or Fine Arts -Visual	3	X
<u>Physical Science Gen. Ed.</u> CHEM 1013 /1011 CHEM 1043 /1041 GEOL 1003 / 1001 PHSC 1014 PHSC 1203 / 1201 PHYS 1103 / 1101 PHYS 2054	Choose one: General Chemistry I / Lab Fund. Concepts of Chemistry / Lab Environmental Geology / Lab Energy and the Environment Physical Science / Lab Intro to Space Science / Lab General Physics I	4	X	DATA 2004	Programming for Data Science	4	
				<u>Gen Ed Social Science*</u> GEO 2613 HIST 1013 HIST 1023 SOC 2213 PSY 2013 POSC 1003 CMAC 1003	Choose one: Intro to Geography World Civ. to 1660 World Civ. Since 1660 Intro to Sociology Intro to Psychology Intro to Politics Intro to Mass Communication	3	X
Total Hours		15		Total Hours		17	

Year 3							
Fall Semester				Spring Semester			
Course No.	Course Name	Hrs	Gen Ed	Course No.	Course Name	Hrs	Gen Ed
STAT 3133	Applied Categorical Data Analysis	3		STAT 3243	Regression Analysis and ANOVA	3	
DATA 3003	Applied Database and data mining	3		MATH 3243	Linear Algebra (spring only)	3	
MATH 2183	Discrete Structures	3		CSED 4231	Principles of Operating Systems	4	
	Domain studies course	3		CSED 4731	Principles of Abstract structures	4	
	Domain studies course	3		CSED 4241	Principles of Computer Organization	4	
				CS 4623	Fundamentals of Data Science	3	
					Domain studies course	3	
Total Hours		15		Total Hours		15	
Year 4							
Fall Semester				Spring Semester			
Course No.	Course Name	Hrs	Gen Ed	Course No.	Course Name	Hrs	Gen Ed
DATA 4003	Fundamental concepts in Design of Experiments	3		DATA 4013	Data Science and Data Analytics Capstone	3	
DATA 3023	Data Visualization and Communication	3		DATA 303V	Internship	4	
	Domain studies course	3		PHIL 3723	Computers, Ethics, and Society	3	
	Domain studies course	3			Domain studies course	3	
					Domain studies course	3	
DATA 3011	Seminar	1					
Total Hours		13		Total Hours		13	
Total Upper-Level Hours		45		Total Degree Hours		120	

Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours. **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minimum of 45 hours of upper-level credit (3000-4000 level) is required for this degree. Mandatory state and institutional assessment exams will be required during your degree program. **Failure to participate in required assessments may delay graduation.**

College coded Color Key for courses (not including Gen Ed)

1. College of Engineering and Computer Science
**** There are seven new courses (numbered DATA XXXX) for a total of 18 credits**** (listed in italics)
2. College of Agriculture
3. College of Liberal Arts and Communication
4. College of Science and Mathematics
5. Domain studies courses: Domain studies will be proposed by the participating courses. Proposals will be submitted to the campus curricular process after mid-October.

Additional Graduation Requirements: