

# Data Science B.S. with Operations Analytics Concentration

## Data Science B.S. with Operations Analytics Concentration Eight-Semester Program

	Units	
	Fall	Spring
<b>First Year</b>		
MATH 24004 Calculus I (ACTS Equivalency = MATH 2405) (Satisfies General Education Outcome 2.1) <sup>1</sup>	4	
ENGL 10103 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
DASC 10003 Introduction to Data Science	3	
DASC 11004 Programming Languages for Data Science	4	
MATH 25004 Calculus II		4
ECON 21403 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3)		3
ENGL 10303 Technical Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.2)		3
DASC 12004 Introduction to Object Oriented Programming for Data Science		4
DASC 12203 Role of Data Science in Today's World		3
Year Total:	14	17
<b>Second Year</b>		
DASC 25904 Multivariable Math for Data Scientists	4	
STAT 30133 Introduction to Probability <sup>4</sup> or INEG 23203 Probability and Stochastic Processes for Industrial Engineers	3	
DASC 22103 Data Visualization and Communication	3	
DASC 21103 Principles and Techniques of Data Science	3	
State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) <sup>2</sup>	3	
SEVI 20503 Business Foundations (Data Science Majors-only section)		3
INEG 23104 Statistics for Industrial Engineers I or STAT 30043 Statistical Methods		3-4
State Minimum Core Natural Science Elective with Lab (Satisfies General Education Outcome 3.4) <sup>2</sup>		4
DASC 22003 Data Management and Data Base		3
INEG 24103 Engineering Economic Analysis		3

Year Total: 16 17

Third Year	Units	
	Fall	Spring
DASC 21303 Data Privacy & Ethics (Satisfies General Education Outcome 5.1)	3	
DASC 31003 Big Data Analytics with Cloud Computing	3	
INEG 26103 Introduction to Operations Research	3	
State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3) <sup>2</sup>	3	
State Minimum Core Natural Science Elective with Lab (Satisfies General Education Outcome 3.4) <sup>2</sup>	4	
DASC 32003 Optimization Methods in Data Science		3
DASC 32103 Statistical Learning		3
State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.3 and 4.1) <sup>2</sup>		3
Operations Data Analytics Concentration Elective		3
Year Total:	16	12

Fourth Year	Units	
	Fall	Spring
DASC 48902 Data Science Practicum I	2	
DASC 41103 Machine Learning	3	
DASC 41203 Social Problems in Data Science and Analytics	3	
INEG 35503 Production Planning and Control	3	
Operations Data Analytics Concentration Elective	3	
DASC 49903 Data Science Practicum II (Satisfies General Education Outcome 6.1)		3
Operations Data Analytics Concentration Elective		3
Operations Data Analytics Concentration Elective		3
State Minimum Core Fine Arts Elective (Satisfies General Education Outcome 3.1) <sup>2</sup>		3
General Education Elective <sup>3</sup>		1-2
Year Total:	14	14

**Total Units in Sequence: 120**

<sup>1</sup> Students have demonstrated successful completion of the learning indicators identified for learning outcome 2.1, by meeting the prerequisites for MATH 24004.

<sup>2</sup> Students must complete the State Minimum Core requirements (<http://catalog.uark.edu/undergraduatecatalog/gened/stateminimum/>) as outlined in the Catalog of Studies. The courses that meet the state minimum core also fulfill many of the university's General Education requirements (<http://catalog.uark.edu/undergraduatecatalog/gened/generaleducation/>), although there are additional considerations to satisfy the general education learning outcomes. Students are encouraged to consult with their academic adviser when making course selections.

2 Data Science B.S. with Operations Analytics Concentration

<sup>3</sup> Students are required to complete 40 hours of upper-division courses (3000-4000 level). It is recommended that students consult with their adviser when making course selections.

<sup>4</sup> Data Science Statistics and Computational Analytics Concentration students are advised to select STAT 30133/STAT 30043 to meet the prerequisites required in the concentration.