

Requirements for the B.S. Degree in Computer Science (Data Science Concentration)

Department of Computer Science and Engineering, University of Central Arkansas 3/25/22 revised

CS Required Courses (48 hours)

Number	Title	Prerequisites
CSCI 1470	Computer Science I	MATH 1390
CSCI 1480	Computer Science II	CSCI 1470
CSCI 2320	Data Structures	CSCI 1480
CSCI 2335	Networking	CSCI 1480
CSCI 3330	Algorithms	CSCI 2320, 2330
CSCI 3360	Database Systems [C]	CSCI 2320
CSCI 3370	Prog. Languages	CSCI 2320
CSCI 3380	Computer Arch.	CSCI 2320
CSCI 3381	OO Software Dev.	CSCI 2320
CSCI 3385	Artificial Intelligence	CSCI 3330
CSCI 4300	Operating Systems	Junior/senior status, CSCI 3330
CSCI 4315	Info. Security [R]	Junior/senior status, CSCI 2320
CSCI 4321	Ethical Impl. [D, R]	Junior/senior status, CSCI 2320
CSCI 4370	Data Mining	CSCI 3360
CSCI 4490	Software Eng. [Z]	CSCI 3381

Math Required Courses (16 hours)

Number	Title	Prerequisites
MATH 1496	Calculus I	(MATH 1390, 1392)/MATH 1486
MATH 2311	Elementary Statistics	MATH 1360/1390
CSCI 2330	Discrete Math.	CSCI 1480
MATH 3320	Linear Algebra [I]	MATH 1497/ CSCI 2330
MATH 3311	Statistical Methods	MATH 2441/ (MATH 1496, CSCI 1470)

Science Required Courses (8 hours)

Number	Title	Prerequisites
BIOL 1440	Principles of Biology I	CHEM 1301
and one of the following		
CHEM 1450	College Chemistry I	CHEM 1301
PHYS 1410	College Physics I	MATH 1390
PHYS 1441	University Physics I	MATH 1496

CS Elective Courses (12 hours)

Number	Title	Prerequisites
CSCI 3xxx/4xxx	Any upper-division CSCI course*	
ENGR 3xxx/4xxx	Any upper-division ENGR course	
CSEC 3xxx/4xxx	Any upper-division CSEC course	
MATH 3391	Nonparametric Stat.	MATH 3311
MATH 3392	Multivariate Analysis	MATH 3311, 3320
MATH 4371	Intro. Probability [R]	MATH 1497
MATH 4373	Regression Analysis	MATH 3311
CISA 4355	Project Mgmt.	MATH 3311
CISA 4380	Bus. Intel. & Data Vis.	MATH 3311

* Except those that are already required, CSCI 4310, and CSCI 4390

Notes:

1. Prerequisite columns: "A,B" means "A and B"; "A/B" means "A or B".
2. UCA Upper-Division Core: Communication [C], Critical Inquiry [I], Diversity [D], Responsible Living [R], Capstone [Z]

For additional information, consult your academic advisor or visit <https://bit.ly/2yNcCmp>