

Requirements for the B.S. Degree in Computer Science

Department of Computer Science and Engineering, University of Central Arkansas 6/27/25 revised

CS Required Courses (42 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 3381	OO Software Dev.	CSCI 2320
CSCI 3385	Artificial Intelligence	CSCI 2320
CSCI 4300	Operating Systems	Junior/senior, CSCI 3330
CSCI 4315	Info. Security [R]	Junior/senior, CSCI 2335
CSCI 4321	Ethical Impl. [D, R]	Junior/senior, CSCI 2320
CSCI 4490	Software Eng. [Z]	CSCI 3381

CS Elective Courses (12 hours)

Number	Title	Prerequisites
CSEC 2300	Intro. Cybersecurity ¹	CSCI 1470
CSCI 2310	Intro. Data Science ²	CSCI 1480
CSCI 2360	Intro. Software Eng. ³	CSCI 1480
CSCI 3V75	Internship	Junior/senior
CSEC 3320	Comp. Forensics [I]	CSEC 2300, CSCI 4305
CSCI 4V95	Independent Study	⁴
CSCI 4305	Linux/UNIX Systems	CSCI 2320
CSEC 4320	Ethical Hacking	CSCI 4305, 4315, 4321
CSEC 4330	Software Security	CSCI 4315
CSEC 4335	Network Security	CSCI 4315
CSCI 4353	Multimedia	CSCI 2320
CSCI 4357	Prog. Mobile Dev.	CSCI 3381
CSCI 4360	Special Topics	Junior/senior
CSCI 4365	Web Technologies	CSCI 3330
CSCI 4370	Data Mining	CSCI 3300/3385
CSCI 4371	Machine Learning	CSCI 3300/3385
CSCI 4372	Data Clustering	CSCI 3300/3385

Math Required Courses (13 hours)

MATH 1491 or MATH 1496	Applied Calculus or Calculus I	MATH 1390 (MATH 1390, 1392)/MATH 1486
CSCI 2330	Discrete Math.	CSCI 1480
MATH 3311	Statistical Methods	MATH 1491/1496, CSCI 1470
MATH 3320	Linear Algebra [I]	MATH 1497/ CSCI 2330

Math Elective Courses (3 hours)

Number	Title	Prerequisites
MATH 1497	Calculus II	MATH 1496
MATH 3381	Data Clean. & Vis.	MATH 3311
MATH 3391	Nonparametric Stats	MATH 3311
MATH 3392	Multivariate Analysis	MATH 3311, 3320
MATH 4340	Numerical Methods	MATH 3320
MATH 4373	Regression Analysis	MATH 3311

Science Required Courses (8 hours)

Number	Title	Prerequisites
BIOL 1400	Exploring Concepts in Biology	
BIOL 1440	Principles of Biology I	CHEM 1301
CHEM 1400	Chemistry in Society	
CHEM 1450	College Chemistry I	CHEM 1301
GEOG 1400	Earth Systems Science	
PHYS 1400	Physical Science	
PHYS 1410	College Physics I	MATH 1390
PHYS 1441	University Physics I	MATH 1496

1, 2, 3: No more than three hours of electives at the 2000 level may be counted toward the major (an additional three hours may be counted with the consent of the chair).

4: Junior or senior status, major GPA of at least 3.0, and consent of instructor

Notes:

- Prerequisite columns: "A,B" means "A and B"; "A/B" means "A or B".
- 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/2zoTvPb>

Number	Title	Prerequisites
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