

# Requirements for the B.S. Degree in Computer Science

Department of Computer Science and Engineering, University of Central Arkansas 3/25/22 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 3380	Computer Arch.	CSCI 2320
CSCI 3381	OO Software Dev.	CSCI 2320
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 4490	Software Eng. [Z]	CSCI 3381

## CS Elective Courses (12 hours)

Number	Title	Prerequisites
CSCI 2340	Assembly Lang. Prog.	CSCI 1480
CSCI 3V75	Internship	Junior/senior status
CSCI 3345	Human-Comp. Inter.	CSCI 2320
CSCI 3382	Multi-Core Prog.	Junior/senior status
CSCI 3385	Artificial Intelligence	CSCI 3330
CSCI 4V95	Independent Study	*
CSCI 4305	Linux/UNIX Systems	CSCI 2320
CSCI 4340	Parallel Computing	CSCI 3330, 3380
CSCI 4350	Computer Graphics	CSCI 2320, MATH 3320
CSCI 4352	Game Prog.	CSCI 3330
CSCI 4353	Multimedia	CSCI 2320
CSCI 4357	Mobile Prog.	CSCI 3381
CSCI 4360	Special Topics	Junior/senior status
CSCI 4365	Web Technology	CSCI 3330
CSCI 4370	Data Mining	CSCI 3360
CSCI 4371	Machine Learning	CSCI 3330
CSCI 4372	Data Clustering	CSCI 3330
ENGR 3xxx/4xxx	Any upper-division ENGR course	
CSEC 3xxx/4xxx	Any upper-division CSEC course	

## Math Required Courses (13 hours)

Number	Title	Prerequisites
MATH 1491 or MATH 1496	Applied Calculus or Calculus I	MATH 1390  (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 Elective Courses (3 hours)

Number	Title	Prerequisites
MATH 1497	Calculus II	MATH 1496
CSCI 4310	Num. Meth. Data Sci.	MATH 3320
CSCI 4390	Theory of Comput.	CSCI 2320, 2330

## 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

\* 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>