Computer Science A.S. Degree

This program roadmap represents one possible pathway to complete the program. **Please see a counselor** to create an education plan that is customized to meet your needs. This roadmap is not a guarantee of course availability or financial aid applicability.

First Year

Semester 1 — 6 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	CISP 300[1] Algorithm Design/Problem Solving	3		
GE	ENGL C1000 Academic Reading and Writing **or**	3		1A
	ENGL C1000H [H] Academic Reading and Writing - Honors	3		

Semester 2 — 9 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	CISP 360[1] Introduction to Structured Programming	4	CISP 300 or 370	
Req	MATH 400 Calculus I	5	through the placement process	2

[1] CISP 480 can be taken in place of CISP 300 and 360

Second Year

Semester 3 — 9 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	CISP 400 Object Oriented Programming with C++	4	CISP 360 or 480	
Req	MATH 401 Calculus II	5	MATH 400	

Semester 4 — 7 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	CISP 310 Computer Architecture and Organization	4	CISP 360 or 480	
GE	any Area 1B (Critical Thinking and Composition) course	3		1B

Third Year

TRANSFER PATH

Potential Transfer Majors:

- Computer Science B.S.
- Computer Engineering B.S.
- Information Technology B.S.
- Management Information Systems B.S.
- Applied Computer Science B.S.
- Software Engineering B.S.
- Applied Science in Computer Science B.S.
- Mathematics in Computer Science B.S.
- Computer Security B.S.

This map prepares students for the A.S. degree. Additional major requirements and general education courses are needed for transfer. See a counselor to create an educational plan that prepares you to transfer.

Potential Career/Options After Completing a Bachelor's Degree:

Career opportunities include

- Computer Scientist
- Programmer/Developer
- Application Development
- Graphics Software Engineer
- Data Science Developer
- Security Software Engineer
- Embedded Software Engineer
- Qualitative Product Researcher

Semester 5
7 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	CISP 430 Data Structures	4	CISP 400 or 401	
GE	any Area 1C (Oral Communication) course	3		1C

Semester 6
7 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	CISP 440 Discrete Structures for Computer Science	3	CISP 360 and MATH 372	
GE	any Area 5A (Physical Sciences) course	3		5A
GE	any Area 5C (Science Lab) course[2]	1		5C

[2] The Area 5C (Science Lab) course must correspond with either the Area 5A (Physical Sciences) or Area 5B (Biological Sciences) course.

Fourth Year

Semester 7
9 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
GE	any Area 4 (Social & Behavioral Sciences) course (from 2 academic disciplines)	3		4
GE	any Area 3A (Arts) course	3		3A
GE	any Area 3B (Humanities) course	3		3B

Semester 8
9 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
GE	any Area 5B (Biological Sciences) course	3		5B
GE	any Area 4 (Social & Behavioral Sciences) course (from 2 academic disciplines)	3		4
GE	any Area 6 (Ethnic Studies) course	3		6

EXPLANATION OF CATEGORIES		
Req	Required Core	A course that is required for this program
GE	General Education	A course that fulfills a specific general education requirement for a degree, which can be replaced with another course that meets the same requirement

- Data Analyst
- Full Stack Software Engineer
- Ads Intelligence
- Engineer -Threat Intelligence Center
- Technical Designer
- Data & Applied Scientist
- Lead Animator
- .NET Developer
- Business Analyst
- Systems Analyst
- Database Administrator

Advising Notes:

- Students working on this major are placed directly into MATH 400. See a counselor to determine if you would benefit from additional preparation or support courses.

- This degree can be completed using either the local AA/AS general education (GE) pattern or the Cal-G ETC transfer GE pattern. See a counselor to determine which pattern is best for you based on your academic goals.

- Students can substitute ESLW 340 for ENGL C1000/C1000H (formerly known as ENGWR 300/480).

Other Notes to Students Preparing to Transfer:

- Additional coursework may be required. Work with a counselor and ASSIST.ORG to determine the courses needed for your goals.

- The CSU system requires every student receiving a bachelor's degree to be knowledgeable about the Constitution of the United States, American history, and state and local government. This requirement is generally known as the American Institutions requirement. Students can complete this requirement at ARC before transferring. See a counselor for a list of approved courses.

Honors Courses (H):

Students with a cumulative GPA of 3.2 or better who complete 15 or more units of Honors coursework earn an <u>Honors</u> Transfer Certificate and can take advantage of honors-to-honors transfer agreements with highly selective colleges and universities, both public and private.

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