

Computer Science AS (Associates GE Track)

+If you have completed coursework at another college and/or are starting in a semester other than a Fall term, please follow up with the Counseling Department to determine if this sequence is appropriate for your academic and career goals.

Program Description:

The Computer Science program is designed to address problems in organizing, representing, manipulating, and presenting information in an automatic processing environment. Computerized information systems are being developed and used in almost every field where information must be processed. The goal of the Computer Science program is to provide understanding of the functions of the modern computer and operational skills in programming. The following list is a sample of the many career options available to the computer science major. While a few require an associate degree, most require baccalaureate degrees and some require a graduate degree: programmer, computer hardware specialist, data base specialist, computer operator, systems analyst, programmer analyst, software engineer, and instructor.

Program SLO:

Students will be able to identify, evaluate, analyze, and present fundamental software solutions and their applications.

Important Transfer Information: The sequence listed below, will not meet all your transfer admissions requirements. Connect with a counselor to develop an individual student education plan through the Counseling Department @ <https://www.canyons.edu/counseling> or (661) 362-3288/(661) 362-3811.

Major courses are sequenced and BOLDED based on recommendations by the [Computer Science Department](#).

First Semester (2-15 units minimum) FA = Fall; WI = Winter; SP = Spring; SU = Summer

Course	Title	Units	Major and GE Courses
CMPSCI 111	Introduction to Algorithms Programming/Java (FA/SP/SU)	3	Major
CMPSCI 111L	Introduction to Algorithms Programming/Java Lab (FA/SP/SU)	1	Major
*Math 211	Calculus I (FA, SP, SU)	5	Major and Area 3 and Dii
ENGLISH 101/101H	English Composition (FA, WI, SP, SU)	4	Area Di
PE/Wellness	Take two PE or Dance activity courses (excluding DANCE 100) or Health 100, 149, 150, or 243 (FA, WI, SP, SU)	2-3	Area F
Term Total:		15-16	

Check the [Honors](#) website for most recent course offerings. Must be enrolled in the [Honors](#) program to take courses, see below

*Speak with a counselor regarding your math placement results. If you did not place into Math 211 – Calculus I, you will need to satisfy the appropriate pre-requisite courses. Refer to the [Math Placement Chart](#) for sequencing.

Interession I (17-19 units minimum)

Course	Title	Units	Major and GE Courses
CMPSCI 122	Computer Architecture and Assembly Language (FA, WI, SP, SU)	3	Major
Term Total:		3	

Second Semester (16-31 units minimum)

Course	Title	Units	Major and GE Courses
CMPSCI 182	Data Structures and Program Design (FA, SP, SU)	3	Major
CMPSCI 182L	Data Structures and Program Design Lab (FA, SP, SU)	1	Major
Math 212	Calculus II (FA, SP, SU)	5	Major
**Social Science and Diversity Course	Choose one course from the AA GE Area B (FA, WI, SP, SU)	3	Area B and Diversity
Natural Science Department Recommends PHYSIC 220	Choose once course from the AA GE Area A (FA, WI, SP, SU) – Department Recommends Physics for Scientists and Engineers: Mechanics of Solids and Fluids (FA, SP, SU)	3-4	Area A – PHYSIC 220 is required for transfer to the university
Term Total:		15-16	

NOTE: Students may elect to take Nine Additional Units of CMPSCI Coursework from Group 1 that have not yet been taken in place of Math 212 and Math 214. See Group 1 Table below.

**Take a social science general education course GE Area B with an (*) indication on the [Associate Degree Requirements Checklist](#). Courses with an (*) will also meet the GE Diversity Requirement. Refer to the Associate Degree Checklist for details.

Third Semester (32-46 units minimum)

Course	Title	Units	Major and GE Courses
CMPSCI 235	C Programming (FA)	3	Major course
CMPSCI 282	Advanced Data Structures (FA, SP)	3	
Math 214	Linear Algebra (FA, SP, SU)	4	Major
American Institutions – Choose Option I or II	Complete first course in chosen option – (note: must take both classes within one option) (FA, WI, SP, SU)	3	American Institutions
Arts Course	Choose one course from the AA GE Area C (FA, WI, SP, SU)	3	Area C
Term Total:		16	

NOTE: Students may elect to take Nine Additional Units of CMPSCI Coursework from Group 1 that have not yet been taken in place of Math 212 and Math 214. See Group 1 Table below.

Fourth Semester (47-60 units minimum)

Course	Title	Units	Major and GE Courses
Group 1 Course	Take one course in Group 1 – see table below	3	Major
Group 1 Course	Take one course in Group 1 – see table below	3	Major
American Institutions	Complete second course in chosen option – (note: must take both classes within one option) (FA, WI, SP, SU)	3	American Institutions
AA Elective	Choose any 3-unit course that is 100-level or above	3	AA Elective
Term Total:		12	

Total Units: 61+

American Institutions Requirement – Select one of the options below and complete a total of 6 units

Course Number	Title
Option I	One course from the following: Economics 170/170H, History 111/111H, History 112/112H, History 120/120H, or History 130 AND Political Science 150/150H (FA, WI, SP, SU)
Option II	History 111/111H AND History 112/112H (FA, WI, SP, SU)

Group 1 Courses: Select six units from the following

CMPSCI 132	Introduction to Programming (SU, WI)	3
CMPSCI 190	Web Programming: Java Script (FA, WI, SP, SU)	3
CMPSCI 192	PHP Programming (FA, WI, SP, SU)	3
CMPSCI 222	Computer Organization (FA, SP)	3
CMPSCI 236	C++ Object Oriented Programming (FA, WI, SP, SU) CMPSCI 235 is a pre-requisite	3
PHILOS 230	Symbolic Logic (FA, SP)	

Counseling Resources

Computer Science Department: <https://www.canyons.edu/academics/computerscience/index.php>

Counseling Department: <https://www.canyons.edu/student-services/counseling/>

Associate General Education Guide: <https://www.canyons.edu/student-services/counseling/degrees/generaled.php>

MESA Program: <https://www.canyons.edu/academics/mesa/index.php>

COC Honors Program: <https://www.canyons.edu/academics/honors/index.php>

Campus Alliances - <https://www.canyons.edu/administration/ie2/equity/alliances.php>

Petition for Associate Degree: Check the [student calendar](#) for term-specific submission deadlines. Summer graduation associate degree petitions are due by April 1st for your name to appear in the spring commencement pamphlet. The petition form must be reviewed with a counselor and may be found here:

https://www.canyons.edu/resources/documents/student-services/admissions/Petition_for_Associate_Degree_and_Certificate_of_Achievement.pdf

Career Resources

California Career Zone: <https://www.cacareerzone.org/>

O*Net Online: <https://www.onetonline.org/>

Bureau of Labor and Statistics: www.bls.gov