

Computer Science Major Elective Approval Form

2018-2019 GEAR Year: 28 elective units

2020-2021 GEAR Year: 32 elective units

2019-2020 GEAR Year: 28 elective units

2021-2022 GEAR Year: 32 elective units

Student's Name

Student's @ucsb email

Student's Perm #

After meeting with a [CS faculty member](#), I have received sufficient advising to make an informed choice and I consider the following courses appropriate electives to supplement my major:

Course Department & Number	Course Name	# of Units

Student's Signature

Date

FOR ANY CS DEPARTMENT FACULTY MEMBER

Number of upper division major elective units required: _____

I have seen this student's course list and believe that the courses listed represent an appropriate selection of electives.

Faculty's Name

Faculty's Signature

Date

Upper Division Elective List

10/26/2020

Programming	
CMPSC 156*	Advanced Applications Programming
*One course of 148/156/172 required for students who started in 2020-21, the others can apply towards Major Electives. Students prior to 2020-21 GEAR years are required to do <u>both</u> 148 and 156 (formerly 48 and 56). Refer student to dept undergrad staff advisor if interested in changing to 2020-21 GEAR Catalog year.	
CMPSC 160/162*	Translation of Programming Language/Programming Languages
*One course required for students who started in 2017-2018, the other can apply towards Major Electives. Students prior to 2017-2018 curric years are required to do <u>both</u> 160 and 162.	
Communication Networks	
CMPSC 176A	Introduction to Computer Communication Networks
CMPSC 176B	Network Computing
CMPSC 176C	Advanced Topics in Internet Computing
Software Systems	
CMPSC 171/ECE 151	Distributed Systems
CMPSC 174A	Fundamentals of Database Systems
CMPSC 174B	Design and Implementation Techniques of Database Systems
CMPSC 180	Computer Graphics
Computer Security	
CMPSC 177	Computer Security
CMPSC 178	Introduction to Cryptography
Artificial Intelligence	
CMPSC 165A	Artificial Intelligence
CMPSC 165B	Machine Learning
CMPSC/ECE 181	Introduction to Computer Vision
Vision and Graphics	
ECE 178	Introduction to Digital Image and Video Processing
CMPSC 180	Computer Graphics
CMPSC/ECE 181	Introduction to Computer Vision
CMPSC 182/ECE 160	Multimedia Computing
Interactivity	
CMPSC 180	Computer Graphics
CMPSC/ECE 181	Introduction to Computer Vision
CMPSC 182/ECE 160	Multimedia Computing
CMPSC 184	Mobile Application Development (Android)
CMPSC 185	Human-Computer Interaction
Undergraduate Projects, Special Topics, and Research	
CMPSC 148*	Computer Science Project
*One course of 148/156/172 required for students who started in 2020-21, the others can apply towards Major Electives. Students prior to 2020-21 GEAR years are required to do <u>both</u> 148 and 156 (formerly 48 and 56).	
CMPSC 189A/B	Senior Computer Systems Project (CAPSTONE)
CMPSC 190AA-ZZ	Special Topics in Computer Science
CMPSC 192	Projects in Computer Science (Only available to students with GPA = 3.0, Four units maximum w/a Letter Grade from CMPSC 192 and CMPSC 196 combined may be counted as upper division electives)
CMPSC 196	Undergraduate Research (Only available to students with GPA = 3.0, Four units maximum w/a Letter Grade from CMPSC 192 and CMPSC 196 combined may be counted as upper division electives)
Hardware	
ECE 152A	Digital Design Principles
CMPSC/ECE 153A	Hardware/Software Interface
ECE 153B	Sensor and Peripheral Interface Design
Signal Processing	
ECE 130A/B/C	Signal Analysis and Processing
Scientific Computing and Mathematics	
CMPSC 111/140*	Introduction to Computational Science/Parallel Scientific Computing
*One course required for the major, the other can apply towards Major Electives	
MATH 108A/B	Introduction to Linear Algebra
MATH 119A/B	Ordinary Differential Equations/Chaotic Dynamics and Bifurcation Theory
MATH 124A/B	Partial Differential Equations/Fourier Series and Numerical Methods
PSTAT	
PSTAT 122/130	Design and Analysis of Experiments/SAS Base Programming
PSTAT 160A/B	Applied Stochastic Processes