Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: University of California, Santa Barbara 2022-2023 General Catalog, Quarter	From: De Anza College 2022-2023 General Catalog, Quarter

Computer Engineering, B.S.

GENERAL INFORMATION FOR ALL MAJORS

All transfer applicants must satisfy University of California admissions eligibility requirements as well as meeting campus admission selection criteria. Completing the UC transfer admission requirements in English and mathematics by the end of the fall term prior to the fall application quarter makes an applicant more competitive for admission to UCSB. All admission requirements must be completed by the end of spring prior to transfer. For more information on UC admissions eligibility requirements and admission to UCSB, please visit the Admissions website: www.admissions.ucsb.edu

This articulation agreement lists course-to-course or sequence-to-sequence substitutions for preparation in the major. **Transfer students are strongly encouraged to complete as many major preparatory courses as possible prior to enrolling at UCSB. Completion of all major preparatory courses is not an admissions requirement, but some majors require certain courses to be completed prior to transfer with a specified GPA, and completion or near completion of major preparatory courses will help students move more efficiently toward graduation after transfer.**

Please note that the course "equivalencies" do not necessarily apply to UCSB general education. For information concerning satisfaction of UCSB general education requirements, please refer to the General Education/Breadth articulation agreement.

Advanced Placement (AP) and **International Baccalaureate (IB)** exams may or may not be used to meet course requirements, depending on the exam. Please refer to the AP Chart and IB Chart in the UCSB General Catalog for information on how we use AP and IB exams.

GENERAL EDUCATION FOR THE COLLEGE OF ENGINEERING

General Education Information: Students should focus on completing major preparation requirements. If time permits, students may also take courses to fulfill either UCSB General Education requirements or IGETC (Intersegmental General Education Transfer Curriculum). Students who will not complete IGETC prior to transfer should refer to the College of Engineering General Education articulation agreement. UCSB's General Education requirements do not need to be completed prior to transfer, but students who choose to follow College of Engineering General Education should complete two to three General Education courses prior to transfer. For more information concerning satisfaction of UCSB General Education requirements, student may also refer to the General Engineering Academic Requirements (GEAR) publicaton at https://engineering.ucsb.edu/undergraduate/academic-advising/gear-publications

COMPUTER ENGINEERING, B.S.

Please visit the department's website to learn more about this major: www.ce.ucsb.edu

Please note: This degree cannot be completed in less than three years at UCSB, even if a student has completed more than the minimum required preparation.

ADMISSION SELECTION CRITERIA: Applicants to the Computer Engineering major who complete the equivalent of all the **REQUIRED** UCSB major preparation courses and as many of the **STRONGLY RECOMMENDED** courses as possible with a major prep GPA of 3.7 or higher are the most competitive for admission.

Applicants without all of the **REQUIRED** courses will be reviewed for admission, but will have less competitive applications.

Courses for the major taken prior to admission must be completed with no grades lower than "C".

REQUIRED base preparation courses

- Math 3A, 3B, 4A, 4B
- Physics 1, 2, 3, 3L
- Computer Science 16, 24

STRONGLY RECOMMENDED advanced preparation courses

- Computer Science 32, 40
- Electrical and Computer Engineering 5, 15A
- Math 6A
- Physics 4, 4L

Additional major preparation courses

- Electrical and Computer Engineering 1A, 1B, 10A, 10AL, 10B, 10BL, 10C, 10CL

You may attend more than one California community college to earn credit for the required major preparation courses if the courses are not offered or if your schedule constrains you from completing them at your own campus. However, students are strongly encouraged to complete the physics

series at a single school to prevent missing content.

REQUIRED BASE PREPARATION COURSES

****REFER TO TOP OF AGREEMENT****
Required for admission

MATH 3A - Calculus with Applications, First Course (4.00)	←	**MATH 1A** - Calculus (5.00) **--- Or ---** **MATH 1AH** - Calculus - HONORS (5.00)

Required for admission

MATH 3B - Calculus with Applications, Second Course (4.00)	←	**MATH 1B** - Calculus (5.00) **--- Or ---** **MATH 1BH** - Calculus - HONORS (5.00)

Required for admission

MATH 4A - Linear Algebra with Applications (4.00)	←	**MATH 2B** - Linear Algebra (5.00) **--- Or ---** **MATH 2BH** - Linear Algebra - HONORS (5.00)

Required for admission

MATH 4B - Differential Equations (4.00)	←	**MATH 2A** - Differential Equations (5.00) **--- Or ---** **MATH 2AH** - Differential Equations - HONORS (5.00)

Required for admission
An AP exam cannot be used to satisfy this course requirement
An IB exam cannot be used to satisfy this course requirement

PHYS 1 - Basic Physics (4.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)

Required for admission
An AP exam cannot be used to satisfy this course requirement
An IB exam cannot be used to satisfy this course requirement

PHYS 2 - Basic Physics (4.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00) **--- And ---** **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

Required for admission
An AP exam cannot be used to satisfy this course requirement
An IB exam cannot be used to satisfy this course requirement

PHYS 3 - Basic Physics (3.00) **--- And ---** **PHYS 3L** - Physics Laboratory (1.00)	←	**PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00) **--- And ---** **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

Required for admission

CMPSC 16 - Problem Solving with Computers I (4.00)	←	**CIS 22B** - Intermediate Programming Methodologies in C++ (4.50) **--- Or ---** **CIS 22BH** - Intermediate Programming Methodologies in C++ - HONORS (4.50) **--- Or ---** **CIS 26A** - C as a Second Programming Language (4.50) **--- Or ---** **CIS 26B** - Advanced C Programming (4.50) **--- Or ---** **CIS 26BH** - Advanced C Programming - HONORS (4.50)

Required for admission

CMPSC 24 - Problem Solving with Computers II (4.00)	←	No Course Articulated

STRONGLY RECOMMENDED ADVANCED PREPARATION COURSES

****REFER TO TOP OF AGREEMENT****
Recommended to be completed prior to transfer

CMPSC 32 - Object Oriented Design and Implementation (4.00)	←	No Course Articulated

Recommended to be completed prior to transfer

CMPSC 40 - Foundations of Computer Science (5.00)	←	**MATH 22** - Discrete Mathematics (5.00) **--- Or ---** **MATH 22H** - Discrete Mathematics - HONORS (5.00)

Recommended to be completed prior to transfer

ECE 5 - Introduction to Electrical & Computer Engineering (4.00)	←	No Course Articulated

Recommended to be completed prior to transfer

ECE 15A - Fundamentals of Logic Design (4.00)	←	No Course Articulated

Recommended to be completed prior to transfer
An AP exam cannot be used to satisfy this course requirement
An IB exam cannot be used to satisfy this course requirement

MATH 6A - Vector Calculus with Applications, First Course (4.00)	←	**MATH 1C** - Calculus (5.00) **--- And ---** **MATH 1D** - Calculus (5.00) **--- Or ---** **MATH 1CH** - Calculus - HONORS (5.00) **--- And ---** **MATH 1DH** - Calculus - HONORS (5.00)

Recommended to be completed prior to transfer
An AP exam cannot be used to satisfy this course requirement
An IB exam cannot be used to satisfy this course requirement

PHYS 4 - Basic Physics (3.00) **--- And ---** **PHYS 4L** - Physics Laboratory (1.00)	←	**PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

ADDITIONAL MAJOR PREPARATION COURSES

ECE 1A - Computer Engineering Seminar (1.00)	←	No Course Articulated
ECE 1B - Ten Puzzling Problems in Computer Engineering (1.00)	←	No Course Articulated
ECE 10A - Foundations of Analog and Digital Circuits and Systems (3.00)	←	No Course Articulated
ECE 10AL - Foundations of Analog and Digital Circuits and Systems Lab (2.00)	←	No Course Articulated
ECE 10B - Foundations of Analog and Digital Circuits and Systems (3.00)	←	No Course Articulated
ECE 10BL - Foundations of Analog and Digital Circuits and Systems Lab (2.00)	←	No Course Articulated
ECE 10C - Foundations of Analog and Digital Circuits and Systems (3.00)	←	No Course Articulated
ECE 10CL - Foundations of Analog and Digital Circuits and Systems Lab (2.00)	←	No Course Articulated

END OF AGREEMENT