# Articulation Agreement by Major

*Effective during the 2022-2023 Academic Year*

| To: University of California, San Diego<br>2022-2023 General Catalog, Quarter | From: De Anza College<br>2022-2023 General Catalog, Quarter |
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## CSE: Computer Engineering B.S.

## GENERAL INFORMATION

**DATED MATERIAL, SUBJECT TO CHANGE. PLEASE CONSULT CURRENT UCSD GENERAL CATALOG FOR ANY ADDITIONAL INFORMATION.**

**Effective Fall 2018, major preparation will be required for this major. For details, visit: http://admissions.ucsd.edu/MajorPrep**

Effective Fall 2015, the B.S. and B.A. in Computer Science, the B.S. in Computer Engineering, and the B.S. in Computer Science with a specialization in Bioinformatics are impacted for transfer students. Visit cse.ucsd.edu for full information.

**General advice:** Transfer students are advised to complete the following courses for their major before enrolling at UC San Diego. Preparing well for the major helps students move efficiently toward graduation.

- Calculus I-for Science and Engineering (Math. 20A)
- Calculus II-for Science and Engineering (Math. 20B)
- Calculus and Analytic Geometry (Math. 20C)
- Differential Equations (Math. 20D)
- Linear Algebra (Math. 18)
- Mechanics (Physics 2A)
- Electricity and Magnetism (Physics 2B)
- Fluids, Waves, Thermodynamics, and Optics (Physics 2C)
- Highest level of introductory computer programming language course offered at the community college. For example, CSE 3, CSE 6R and 8A may be used to fulfill the lower-division elective requirement; CSE 8B or 11 fulfill other lower-division requirements.

**Course equivalency:** For course equivalencies not listed below, visit the CSE Student Affairs Office, CSE Building (EBU3B, Room 1200) first floor, or email CSEStudent@eng.ucsd.edu.

For information not found here, please visit the CSE Undergraduate Program at: https://cse.ucsd.edu/undergraduate

UC San Diego Advanced Placement (AP) and International Baccalaureate (IB) credit policies are detailed in the links below:

Advanced Placement (AP) https://www.ucsd.edu/catalog/pdf/APC-chart.pdf

International Baccalaureate (IB) https://catalog.ucsd.edu/_files/international-baccalaureate-credits-chart.pdf

## LOWER DIVISION MAJOR REQUIREMENTS

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| **CSE 8A** - Introduction to Programming and Computational Problem Solving I (4.00) | ← | **CIS 22A** - Beginning Programming Methodologies in C++ (4.50)<br>**--- Or ---**<br>**CIS 36A** - Introduction to Computer Programming Using Java (4.50)<br>**--- Or ---**<br>**CIS 40** - Introduction to Programming in Python (4.50) |
| **--- And ---** | | |
| **CSE 8B** - Introduction to Programming and Computational Problem Solving II (4.00) | ← | **CIS 36B** - Intermediate Problem Solving in Java (4.50) |

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| **CSE 11** - Introduction to Programming and Computational Problem Solving - Accelerated Pace (4.00) | ← | **CIS 35A** - Java Programming (4.50)<br>**--- Or ---**<br>**CIS 36A** - Introduction to Computer Programming Using Java (4.50)<br>**--- And ---**<br>**CIS 36B** - Intermediate Problem Solving in Java (4.50) |

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| **CSE 12** - Basic Data Structures and Object-Oriented Design (4.00) | ← | **CIS 22C** - Data Abstraction and Structures (4.50)<br>**--- And ---**<br>**CIS 28** - Object Oriented Analysis and Design (4.50)<br>**--- Or ---**<br>**CIS 22CH** - Data Abstraction and Structures - HONORS (4.50)<br>**--- And ---**<br>**CIS 28** - Object Oriented Analysis and Design (4.50) |
| **CSE 15L** - Software Tools and Techniques Laboratory (2.00) | ← | No Course Articulated |
| **CSE 20** - Discrete Mathematics (4.00)<br>Same-As: MATH 15A | ← | **MATH 22** - Discrete Mathematics (5.00)<br>**--- Or ---**<br>**MATH 22H** - Discrete Mathematics - HONORS (5.00) |
| **CSE 21** - Mathematics for Algorithms and Systems (4.00) | ← | No Course Articulated |
| **CSE 30** - Computer Organization and Systems Programming (4.00) | ← | **CIS 21JA** - Introduction to x86 Processor Assembly Language and Computer Architecture (4.50)<br>**--- And ---**<br>**CIS 21JB** - Advanced x86 Processor Assembly Programming (4.50)<br>**--- And ---**<br>**CIS 26B** - Advanced C Programming (4.50)<br>**--- Or ---**<br>**CIS 21JA** - Introduction to x86 Processor Assembly Language and Computer Architecture (4.50)<br>**--- And ---**<br>**CIS 21JB** - Advanced x86 Processor Assembly Programming (4.50)<br>**--- And ---**<br>**CIS 26BH** - Advanced C Programming - HONORS (4.50) |

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| **ECE 35** - Introduction to Analog Design (4.00) | ← | This course must be taken at the university after transfer |
| **ECE 45** - Circuits and Systems (4.00) | ← | This course must be taken at the university after transfer |
| **ECE 65** - Components and Circuits Lab (4.00) | ← | This course must be taken at the university after transfer |

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| **MATH 18** - Linear Algebra (4.00) | ← | **MATH 2B** - Linear Algebra (5.00)<br>**--- Or ---**<br>**MATH 2BH** - Linear Algebra - HONORS (5.00) |
| **MATH 20A** - Calculus for Science and Engineering (4.00) | ← | **MATH 1A** - Calculus (5.00)<br>**--- Or ---**<br>**MATH 1AH** - Calculus - HONORS (5.00) |
| **MATH 20B** - Calculus for Science and Engineering (4.00) | ← | **MATH 1B** - Calculus (5.00)<br>**--- Or ---**<br>**MATH 1BH** - Calculus - HONORS (5.00) |

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| **MATH 20C** - Calculus and Analytic Geometry for Science and Engineering (4.00) | ← | **MATH 1C** - Calculus (5.00)<br>**--- And ---**<br>**MATH 1D** - Calculus (5.00)<br>**--- Or ---**<br>**MATH 1CH** - Calculus - HONORS (5.00)<br>**--- And ---**<br>**MATH 1DH** - Calculus - HONORS (5.00) |
| **MATH 20D** - Introduction to Differential Equations (4.00) | ← | **MATH 2A** - Differential Equations (5.00)<br>**--- Or ---**<br>**MATH 2AH** - Differential Equations - HONORS (5.00) |

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

**END OF AGREEMENT**