

# Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: California State University, Long Beach  
2022-2023 General Catalog, Semester

From: Santa Ana College  
2022-2023 General Catalog, Semester

## Computer Science

### BACHELOR OF SCIENCE IN COMPUTER SCIENCE

#### GENERAL INFORMATION 2022-23

##### Important Admissions Information for Fall 2023

**ALL MAJORS ARE IMPACTED AT CSU, LONG BEACH.** As a result, incoming students must complete a series of major specific preparation coursework and meet GPA requirements. Please visit our [Major Specific Degree Requirements](#) webpage for more information and to find the correct path and year for your major.

**Review the following for information related to transfer admissions to CSULB:**

- [Transfer Admission Eligibility Overview](#)
- [Transfer Application Process](#)
- [Lower Division Requirements Information for Major Agreements](#)

#### GENERAL INFORMATION - DEGREE NOTES

**Degree Progress:** Transfer students must complete the following requirements within one calendar year of declaring the major: A grade of C or better must be achieved in MATH 123 (Calculus II) and PHYS 151 (Mechanics and Heat) within one calendar year after transfer to CSULB (if the equivalent was not taken before transfer). Questions can be directed to the College of Engineering Recruitment and Retention Center at (562) 985-1800 or coe-admit@csulb.edu.

ENGR 101 and 102 are substituted for transfer students who have three units of CSU GE Area E.

**Special Notes:** A grade of "C" or better is required in all required and elective courses.

#### LOWER DIVISION CORE REQUIREMENTS, TAKE ALL OF THE FOLLOWING COURSES:

Minimum grade required: C or better

Please refer to additional important General Information section above

<b>CECS 105</b> - Introduction to Computer Engineering and Computer Science (1.00)	←	No Course Articulated
<b>CECS 174</b> - Introduction to Programming and Problem Solving (3.00)	←	<b>CMPR 112</b> - JAVA Programming (3.00) --- Or --- <b>CMPR 120</b> - Introduction to Programming (3.00)
<b>CECS 225</b> - Digital Logic and Assembly Programming (3.00)	←	<b>CMPR 129</b> - Introduction to Computer Organization (4.00)
<b>CECS 228</b> - Discrete Structures with Computing Applications (3.00)	←	<b>CMPR 140</b> - Discrete Structures for Computer Science (3.00)
<b>CECS 229</b> - Discrete Structures with Computing Applications II (3.00)	←	<b>MATH 287</b> - Introduction to Linear Algebra and Differential Equations (5.00)
<b>CECS 274</b> - Data Structures (3.00)	←	<b>CMPR 131</b> - Data Structures Concepts (3.00)
<b>CECS 277</b> - Object Oriented Application Development (3.00)	←	<b>CMPR 113</b> - Advanced Java (3.00)
<b>ENGR 101</b> - Introduction to Engineering Profession (1.00) Same-As: ENGR 101H • Please refer to additional important General Information section above	←	No Course Articulated
<b>ENGR 102</b> - Academic Success Skills (1.00) Same-As: ENGR 102H • Please refer to additional important General Information section above	←	<b>ENGR 100B</b> - Introduction to Civil Engineering (2.00)
<b>MATH 122</b> - Calculus I (4.00)	←	<b>MATH 180</b> - Single Variable Calculus I (4.00)
<b>MATH 123</b> - Calculus II (4.00) • Please refer to additional important General Information section above	←	<b>MATH 185</b> - Single Variable Calculus II (4.00)

## APPROVED SCIENCES ELECTIVES (MINIMUM OF EIGHT UNITS), TAKE:

Please refer to additional important General Information section above

**PHYS 151** - Mechanics and Heat (4.00)

- Please refer to additional important General Information section above



**PHYS 210** - Principles of Physics I (4.00)

--- Or ---

**PHYS 217** - Engineering Physics I (4.00)

--- Or ---

**CHEM 111A** - General Chemistry (5.00)



**CHEM 219** - General Chemistry (5.00)

--- Or ---

**CHEM 219H** - Honors General Chemistry (5.00)

## REMAINING UNITS TO BE CHOSEN FROM THE FOLLOWING:

Please refer to additional important General Information section above

**BIOL 200** - General Biology (4.00)



**BIOL 109** - Fundamentals of Biology (3.00)

--- And ---

**BIOL 109L** - Fundamentals of Biology Laboratory (1.00)

--- Or ---

**BIOL 109H** - Honors Fundamentals of Biology (3.00)

--- And ---

**BIOL 109L** - Fundamentals of Biology Laboratory (1.00)

--- Or ---

**BIOL 115** - Concepts in Biology for Educators (4.00)

**BIOL 205** - Human Biology (4.00)



**BIOL 149** - Human Anatomy & Physiology (4.00)

**BIOL 207** - Human Physiology (4.00)



**BIOL 249** - Human Physiology (4.00)

**END OF AGREEMENT**