

# Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

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

From: Canada College  
2022-2023 General Catalog, Semester

## Computer Science, B.S.

### COMPUTER SCIENCE

The degree program for the Bachelor of Science in Computer Science assumes that students have already obtained a working knowledge of personal computing fundamentals and applications, including word processing, spreadsheets, database systems, e-mail systems and presentation graphics.

The curriculum begins with a three-course sequence covering concepts of programming and data structures. If students have knowledge of these topics, but do not have the courses to transfer, nor AP scores to submit, they may take the Computer Science Placement Examination to waive one or more of these courses. The test may be taken only once, and scores are valid for two consecutive semesters.

#### General Education

All students at Cal State Fullerton are expected to complete prescribed units of General Education that are made up of courses outside of their chosen disciplines. Students seeking a degree in Engineering have been provided exceptions from some of the General Education requirements. For this reason, it is important that students take the approved G.E. courses for Engineering majors that are found in their Titan Degree Audit (TDA). Additionally, they should confirm the G.E. courses that are required within their specific programs with their respective advisers.

### LOWER DIVISION CORE

#### Select 15 Semester Unit(s) from the following

<b>CPSC 120</b> - Introduction to Programming (3.00)	←	<b>CIS 118</b> - Introduction to Computer Science (4.00)
<b>CPSC 121</b> - Object-Oriented Programming (3.00)	←	<b>CIS 250</b> - Introduction to Object Oriented Programming-C++ (3.00)
		--- Or ---
		<b>CIS 284</b> - Introduction to Object Oriented Programming-Java (3.00)
<b>CPSC 131</b> - Data Structures (3.00)	←	<b>CIS 252</b> - Introduction to Data Structures-C++ (3.00)
		--- Or ---
		<b>CIS 286</b> - Introduction to Data Structures-Java (3.00)
<b>CPSC 240</b> - Computer Organization & Assembly Language (3.00)	←	<b>CIS 242</b> - Computer Architecture and Assembly Language (3.00)
<b>CPSC 253</b> - Cybersecurity Foundations and Principles (3.00)	←	No Course Articulated

#### --- And ---

#### Select 1 Course(s) from the following

<b>CPSC 223C</b> - C Programming (3.00)	←	No Course Articulated
<b>CPSC 223J</b> - Java Programming (3.00)	←	No Course Articulated
<b>CPSC 223N</b> - Visual C# Programming (3.00)	←	No Course Articulated
<b>CPSC 223P</b> - Python Programming (3.00)	←	No Course Articulated

### MATHEMATICS REQUIREMENTS

#### Select 18 Semester Unit(s) from the following

<b>MATH 150A</b> - Calculus I (4.00)	←	<b>MATH 251</b> - Analytical Geometry and Calculus I (5.00)
<b>MATH 150B</b> - Calculus II (4.00)	←	<b>MATH 252</b> - Analytical Geometry and Calculus II (5.00)

<b>MATH 170A</b> - Mathematical Structures I (3.00)	←	<b>CIS 262</b> - Discrete Mathematics for Computer Science (3.00)
<b>MATH 170B</b> - Mathematical Structure II (3.00)	←	No Course Articulated
<b>MATH 338</b> - Stat Appl to Natural Sci (4.00)	←	No Course Articulated

## MATH AND SCIENCE (WITH CORRESPONDING LAB) ELECTIVES- SEE ADDITIONAL INFORMATION UNDER ARTICULATION DETAILS

### Select 12 Semester Unit(s) from the following

<b>BIOL 101</b> - Elements of Biology (3.00)	←	No Course Articulated
<b>BIOL 101L</b> - Elements of Biology Laboratory (1.00)	←	No Course Articulated
<b>BIOL 151</b> - Cellular & Molecular Biology (4.00)	←	<b>BIOL 230</b> - Cell and Molecular Biology (5.00)
<b>BIOL 152</b> - Evolution & Organismal Biology (4.00)	←	<b>BIOL 225</b> - Biology of Organisms (5.00)

<b>CHEM 120A</b> - General Chemistry (5.00)	←	<b>CHEM 210</b> - General Chemistry I (5.00)
<b>CHEM 120B</b> - General Chemistry (5.00)	←	<b>CHEM 220</b> - General Chemistry II (5.00)
<b>CHEM 123</b> - Chemistry for Engineers (3.00)	←	No Course Articulated
<b>CHEM 125</b> - Gen Chemistry B Lecture (3.00)	←	No Course Articulated

<b>GEOL 101</b> - Introduction to Geology (3.00)	←	<b>GEOL 100</b> - Introduction to Geology (3.00)
<b>GEOL 101L</b> - Introduction to Geology Laboratory (1.00)	←	<b>GEOL 101</b> - Geology Laboratory (1.00)
<b>GEOL 201</b> - Earth History (3.00)	←	No Course Articulated
<b>GEOL 201L</b> - Earth History Supplemental Lab (1.00)	←	No Course Articulated

<b>MATH 250A</b> - Calculus III (4.00)	←	<b>MATH 253</b> - Analytical Geometry and Calculus III (5.00)
<b>MATH 250B</b> - Intro to Linear Algebra and Diff. Equations (4.00)	←	<div style="border: 1px solid black; padding: 5px;"> <b>MATH 270</b> - Linear Algebra (3.00)  <div style="text-align: center;">--- And ---</div> <b>MATH 275</b> - Ordinary Differential Equations (3.00) </div>

<b>PHYS 225</b> - Fundamental Phys; Mechanics (3.00)	←	No Course Articulated
<b>PHYS 225L</b> - Fundamental Physics Lab (1.00)	←	No Course Articulated
<b>PHYS 226</b> - Fund Phys.Elect + Magnetism (3.00)	←	No Course Articulated
<b>PHYS 226L</b> - Fundamental Physics Lab (1.00)	←	No Course Articulated
<b>PHYS 227</b> - Fund Phys: Waves, Optics, & Mod Phys (1.00 - 3.00)	←	No Course Articulated
<b>PHYS 227L</b> - Fundamental Physics Lab (1.00)	←	No Course Articulated

## COMPUTER SCIENCE ELECTIVES

<b>CPSC 254</b> - Software Development with Open Source Systems (3.00)	←	No Course Articulated
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## REQUIRED FOR GRADUATION

<b>POSC 100</b> - American Government (3.00)	←	<b>PLSC 210</b> - American Politics (3.00)
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## ARTICULATION DETAILS

<div style="border: 1px solid black; padding: 5px;"> <b>BIOL 101</b> - Elements of Biology (3.00)  <div style="text-align: center;">--- And ---</div> <b>BIOL 101L</b> - Elements of Biology Laboratory (1.00) </div>	←	No Course Articulated
<div style="border: 1px solid black; padding: 5px;"> <b>BIOL 151</b> - Cellular &amp; Molecular Biology (4.00)  <div style="text-align: center;">--- And ---</div> <b>BIOL 152</b> - Evolution &amp; Organismal Biology (4.00) </div>	←	<div style="border: 1px solid black; padding: 5px;"> <b>BIOL 230</b> - Cell and Molecular Biology (5.00)  <div style="text-align: center;">--- And ---</div> <b>BIOL 225</b> - Biology of Organisms (5.00) </div>

**CHEM 120A** - General Chemistry (5.00)

--- And ---

**CHEM 120B** - General Chemistry (5.00)



**CHEM 210** - General Chemistry I (5.00)

--- And ---

**CHEM 220** - General Chemistry II (5.00)

**CHEM 120A** - General Chemistry (5.00)

--- And ---

**CHEM 125** - Gen Chemistry B Lecture (3.00)



No Course Articulated

**CPSC 120** - Introduction to Programming (3.00)

--- And ---

**CPSC 121** - Object-Oriented Programming (3.00)

--- And ---

**CPSC 131** - Data Structures (3.00)



No Course Articulated

**CPSC 253U** - Workshop In Unix (1.00)

--- And ---

**CPSC 254** - Software Development with Open Source Systems (3.00)



No Course Articulated

**GEOL 101** - Introduction to Geology (3.00)

--- And ---

**GEOL 101L** - Introduction to Geology Laboratory (1.00)



**GEOL 100** - Introduction to Geology (3.00)

--- And ---

**GEOL 101** - Geology Laboratory (1.00)

**GEOL 201** - Earth History (3.00)

--- And ---

**GEOL 201L** - Earth History Supplemental Lab (1.00)



No Course Articulated

**MATH 150A** - Calculus I (4.00)

--- And ---

**MATH 150B** - Calculus II (4.00)



**MATH 251** - Analytical Geometry and Calculus I (5.00)

--- And ---

**MATH 252** - Analytical Geometry and Calculus II (5.00)

**MATH 150A** - Calculus I (4.00)

--- And ---

**MATH 150B** - Calculus II (4.00)

--- And ---

**MATH 250A** - Calculus III (4.00)



**MATH 251** - Analytical Geometry and Calculus I (5.00)

--- And ---

**MATH 252** - Analytical Geometry and Calculus II (5.00)

--- And ---

**MATH 253** - Analytical Geometry and Calculus III (5.00)

**PHYS 225** - Fundamental Phys; Mechanics (3.00)

--- And ---

**PHYS 225L** - Fundamental Physics Lab (1.00)



**PHYS 250** - Physics with Calculus I (4.00)

**PHYS 226** - Fund Phys.Elect + Magnetism (3.00)

--- And ---

**PHYS 226L** - Fundamental Physics Lab (1.00)



**PHYS 260** - Physics with Calculus II (4.00)

**PHYS 227** - Fund Phys: Waves, Optics, & Mod Phys (1.00 - 3.00)

--- And ---

**PHYS 227L** - Fundamental Physics Lab (1.00)



**PHYS 270** - Physics with Calculus III (4.00)

**END OF AGREEMENT**