Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: California State University, Fullerton 2022-2023 General Catalog, Semester	From: Long Beach City 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.

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LOWER DIVISION CORE

Select 15 Semester Unit(s) from the following

CPSC 120 - Introduction to Programming (3.00)	←	**CS 11** - Introduction to Computer Science-C++ (3.00)
		--- Or ---
		COSP 7 - Programming concepts and Methodologies (4.00)
CPSC 121 - Object-Oriented Programming (3.00)	←	**CS 12** - Advanced Computer Science-C++ (4.00)
CPSC 131 - Data Structures (3.00)	←	**CS 22** - Data Structures and Algorithms (3.00)
CPSC 240 - Computer Organization & Assembly Language (3.00)	←	**CS 51** - Introduction to Computer Architecture (3.00)
CPSC 253 - Cybersecurity Foundations and Principles (3.00)	←	No Course Articulated

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Select 1 Course(s) from the following

CPSC 223C - C Programming (3.00)	←	No Course Articulated
CPSC 223J - Java Programming (3.00)	←	**CS 21** - Introduction to Computer Science-Java (3.00)
CPSC 223N - Visual C# Programming (3.00)	←	No Course Articulated
CPSC 223P - Python Programming (3.00)	←	No Course Articulated

MATHEMATICS REQUIREMENTS

Select 18 Semester Unit(s) from the following

MATH 150A - Calculus I (4.00)	←	**MATH 60** - First Calculus Course (5.00)
		--- Or ---
		MATH 60H - Honors First Calculus Course (5.00)
MATH 150B - Calculus II (4.00)	←	**MATH 70** - Second Calculus Course (5.00)
		--- Or ---
		MATH 70H - Honors Second Calculus Course (5.00)

MATH 170A - Mathematical Structures I (3.00)	←	**CS 61** - Discrete Structures (3.00)
MATH 170B - Mathematical Structure II (3.00)	←	No Course Articulated
MATH 338 - 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

BIOL 101 - Elements of Biology (3.00)	←	**BIO 41** - Contemporary Biology (3.00)
		--- Or ---
		BIO 41H - Honors Contemporary Biology (3.00)
BIOL 101L - Elements of Biology Laboratory (1.00)	←	**BIO 41L** - Contemporary Biology Laboratory (1.00)
BIOL 151 - Cellular & Molecular Biology (4.00)	←	No Course Articulated
BIOL 152 - Evolution & Organismal Biology (4.00)	←	No Course Articulated

CHEM 120A - General Chemistry (5.00)	←	**CHEM 1A** - General Chemistry (5.50)
CHEM 120B - General Chemistry (5.00)	←	**CHEM 1B** - General Chemistry (5.50)
CHEM 123 - Chemistry for Engineers (3.00)	←	No Course Articulated
CHEM 125 - Gen Chemistry B Lecture (3.00)	←	No Course Articulated

GEOL 101 - Introduction to Geology (3.00)	←	**GEOL 2** - General Geology: Physical (3.00)
GEOL 101L - Introduction to Geology Laboratory (1.00)	←	**GEOL 2L** - General Geology: Physical Geology (1.50)
GEOL 201 - Earth History (3.00)	←	**GEOL 3** - Historical Geology (4.50)
		--- Or ---
		GEOL 3H - Honors Historical Geology (4.50)
GEOL 201L - Earth History Supplemental Lab (1.00)	←	No Course Articulated

MATH 250A - Calculus III (4.00)	←	**MATH 80** - Third Calculus Course (5.00)
MATH 250B - Intro to Linear Algebra and Diff. Equations (4.00)	←	**MATH 84** - Intro to Differential Equations and Linear Algebra (5.00)

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

COMPUTER SCIENCE ELECTIVES

CPSC 254 - Software Development with Open Source Systems (3.00)	←	No Course Articulated

REQUIRED FOR GRADUATION

POSC 100 - American Government (3.00)	←	**POLSC 1** - Introduction to Government (3.00)
		--- Or ---
		POLSC 1H - Honors Introduction to Government (3.00)

ARTICULATION DETAILS

BIOL 101 - Elements of Biology (3.00)	←	**BIO 41** - Contemporary Biology (3.00)
--- And ---		--- Or ---
BIOL 101L - Elements of Biology Laboratory (1.00)		**BIO 41H** - Honors Contemporary Biology (3.00)
		BIO 41L - Contemporary Biology Laboratory (1.00)
BIOL 151 - Cellular & Molecular Biology (4.00)	←	**BIO 1A** - Biology for Science Majors (5.00)
--- And ---		--- And ---
BIOL 152 - Evolution & Organismal Biology (4.00)		**BIO 1B** - Biology for Science Majors (5.00)

Receiving Institution		Sending Institution
CHEM 120A - General Chemistry (5.00) **--- And ---** **CHEM 120B** - General Chemistry (5.00)	←	**CHEM 1A** - General Chemistry (5.50) **--- And ---** **CHEM 1B** - General Chemistry (5.50)
CHEM 120A - General Chemistry (5.00) **--- And ---** **CHEM 125** - Gen Chemistry B Lecture (3.00)	←	**CHEM 1A** - General Chemistry (5.50) **--- And ---** **CHEM 1B** - General Chemistry (5.50)

CPSC 120 - Introduction to Programming (3.00) **--- And ---** **CPSC 121** - Object-Oriented Programming (3.00) **--- And ---** **CPSC 131** - Data Structures (3.00)	←	**CS 11** - Introduction to Computer Science-C++ (3.00) **--- And ---** **CS 12** - Advanced Computer Science-C++ (4.00) **--- And ---** **CS 22** - Data Structures and Algorithms (3.00)
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 1** - General Physical Geology (4.50) **--- Or ---** **GEOL 1H** - Honors General Physical Geology (4.50)
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 60** - First Calculus Course (5.00) **--- Or ---** **MATH 60H** - Honors First Calculus Course (5.00) **MATH 70** - Second Calculus Course (5.00) **--- Or ---** **MATH 70H** - Honors Second Calculus Course (5.00)
MATH 150A - Calculus I (4.00) **--- And ---** **MATH 150B** - Calculus II (4.00) **--- And ---** **MATH 250A** - Calculus III (4.00)	←	**MATH 60** - First Calculus Course (5.00) **--- Or ---** **MATH 60H** - Honors First Calculus Course (5.00) **MATH 70** - Second Calculus Course (5.00) **--- Or ---** **MATH 70H** - Honors Second Calculus Course (5.00) **MATH 80** - Third Calculus Course (5.00)

PHYS 225 - Fundamental Phys; Mechanics (3.00) **--- And ---** **PHYS 225L** - Fundamental Physics Lab (1.00)	←	**PHYS 3A** - Physics for Sci & Eng. - Mechanics (5.50)
PHYS 226 - Fund Phys.Elect + Magnetism (3.00) **--- And ---** **PHYS 226L** - Fundamental Physics Lab (1.00)	←	**PHYS 3B** - Physics for Sci. &Eng. -E & M (4.50)
PHYS 227 - Fund Phys: Waves, Optics, & Mod Phys (1.00 - 3.00) **--- And ---** **PHYS 227L** - Fundamental Physics Lab (1.00)	←	**PHYS 3C** - Physics for Sci. and Eng.- Modern Physics (4.50)

END OF AGREEMENT