Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: California State University, Fullerton 2022-2023 General Catalog, Semester	From: American River 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)	←	**CISP 300** - Algorithm Design/Problem Solving (3.00)
CPSC 121 - Object-Oriented Programming (3.00)	←	**CISP 360** - Introduction to Structured Programming (4.00) **--- Or ---** **CISP 480** - Honors Introduction to Structured Programming (5.00) **--- Or ---** **CISP 400** - Object Oriented Programming with C++ (4.00)
CPSC 131 - Data Structures (3.00)	←	**CISP 430** - Data Structures (4.00)
CPSC 240 - Computer Organization & Assembly Language (3.00)	←	**CISP 310** - Assembly Language Programming for Microcomputers (4.00)
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)	←	**CISP 401** - Object Oriented Programming with Java (4.00)
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 400** - Calculus I (5.00)
MATH 150B - Calculus II (4.00)	←	**MATH 401** - Calculus II (5.00)

MATH 170A - Mathematical Structures I (3.00)	←	**CISP 440** - Discrete Structures for Computer Science (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)	←	No Course Articulated
BIOL 101L - Elements of Biology Laboratory (1.00)	←	No Course Articulated
BIOL 151 - Cellular & Molecular Biology (4.00)	←	**BIOL 400** - Principles of Biology (5.00)
BIOL 152 - Evolution & Organismal Biology (4.00)	←	**BIOL 415** - Introduction to Biology: Biodiversity, Evolution, and Ecology (5.00)

CHEM 120A - General Chemistry (5.00)	←	**CHEM 400** - General Chemistry I (5.00)
CHEM 120B - General Chemistry (5.00)	←	**CHEM 401** - General Chemistry II (5.00)
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 300** - Physical Geology (3.00)
GEOL 101L - Introduction to Geology Laboratory (1.00)	←	**GEOL 301** - Physical Geology Laboratory (1.00)
GEOL 201 - Earth History (3.00)	←	No Course Articulated
GEOL 201L - Earth History Supplemental Lab (1.00)	←	No Course Articulated

MATH 250A - Calculus III (4.00)	←	**MATH 402** - Calculus III (5.00)
MATH 250B - Intro to Linear Algebra and Diff. Equations (4.00)	←	**MATH 420** - Differential Equations (4.00) **--- And ---** **MATH 410** - Introduction to Linear Algebra (3.00)

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)	←	**POLS 301** - Introduction to Government: United States (3.00) **--- Or ---** **POLS 481** - Introduction to Government: United States-Honors (3.00)

ARTICULATION DETAILS

BIOL 101 - Elements of Biology (3.00) **--- And ---** **BIOL 101L** - Elements of Biology Laboratory (1.00)	←	**BIOL 310** - General Biology (4.00)

BIOL 151 - Cellular & Molecular Biology (4.00) **--- And ---** **BIOL 152** - Evolution & Organismal Biology (4.00)	←	**BIOL 400** - Principles of Biology (5.00) **--- And ---** **BIOL 415** - Introduction to Biology: Biodiversity, Evolution, and Ecology (5.00)
CHEM 120A - General Chemistry (5.00) **--- And ---** **CHEM 120B** - General Chemistry (5.00)	←	**CHEM 400** - General Chemistry I (5.00) **--- And ---** **CHEM 401** - 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)	←	**CISP 300** - Algorithm Design/Problem Solving (3.00) **--- And ---** **CISP 360** - Introduction to Structured Programming (4.00) **--- And ---** **CISP 430** - Data Structures (4.00) **--- Or ---** **CISP 300** - Algorithm Design/Problem Solving (3.00) **--- And ---** **CISP 480** - Honors Introduction to Structured Programming (5.00) **--- And ---** **CISP 430** - Data Structures (4.00)
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 300** - Physical Geology (3.00) **--- And ---** **GEOL 301** - Physical 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 400** - Calculus I (5.00) **--- And ---** **MATH 401** - 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 400** - Calculus I (5.00) **--- And ---** **MATH 401** - Calculus II (5.00) **--- And ---** **MATH 402** - Calculus III (5.00)

PHYS 225 - Fundamental Phys; Mechanics (3.00) **--- And ---** **PHYS 225L** - Fundamental Physics Lab (1.00)	←	**PHYS 410** - Mechanics of Solids and Fluids (5.00)
PHYS 226 - Fund Phys.Elect + Magnetism (3.00) **--- And ---** **PHYS 226L** - Fundamental Physics Lab (1.00)	←	**PHYS 421** - Electricity and Magnetism (4.00)
PHYS 227 - Fund Phys: Waves, Optics, & Mod Phys (1.00 - 3.00) **--- And ---** **PHYS 227L** - Fundamental Physics Lab (1.00)	←	**PHYS 431** - Heat, Waves, Light and Modern Physics (4.00)

END OF AGREEMENT