

BS in Computer Science: Software Engineering

Requirements for the Bachelor of Science Degree in Computer Science: Software Engineering 2020-2021

Lower Division Requirements

- ☐ CSC 1043 (2) Introduction to Computer Programming and
- ☐ CSC 1043L (1) Introduction to Computer Programming Lab
- ☐ CSC 1054 (3) Objects and Elementary Data Structures and
- ☐ CSC 1054L (1) Objects and Elementary Data Structures Lab
- ☐ CSC 2054 (3) Data Structures and Algorithms and
- ☐ CSC 2054L (1) Data Structures and Algorithms Lab
- ☐ MTH 1064 (3) Calculus I (GE)* and
- ☐ MTH 1064L (1) Calculus I Lab (GE)*
- ☐ MTH 1074 (3) Calculus II and
- ☐ MTH 1074L (1) Calculus II Lab
- ☐ MTH 2003 (3) Introduction to Statistics **

Choose 6-7 additional units from: ***

- ☐ CSC 3002 (2) UNIX & Python Scripting for Computational Science
- ☐ CSC 3011 (1) Machine Learning and Multivariate Modeling in R
- ☐ CSC 3021 (1) Computational Tools
- ☐ CSC 3031 (1) Data Visualization and Communication in R
- ☐ CSC 4012 (2) Topics in Computer Science
- ☐ CSC 4091 (1-4) Independent Studies in Computer Science
- ☐ CSC 4102 (2) Independent Research in Computer Science I
- ☐ CSC 4121 (1) Independent Research in Computer Science II
- ☐ CSC 4133 (3) Service Learning in Computer Science
- ☐ HON 4098 (2) Honors Project I
- ☐ HON 4099 (1) Honors Project II
- ☐ ISS 3073 (3) Networking and Security
- ☐ ISS 3092 (2) Topics in Cyber Security
- ☐ ISS 4003 (3) Information and Computer Security
- ☐ ISS 4012 (2) Topics in Information Security
- ☐ ISS 4072 (2) Internship in Information Systems
- ☐ MTH 2033 (3) Linear Algebra
- ☐ MTH 2074 (4) Calculus III

Upper Division Requirements

- ☐ BUS 3013 (3) Administrative Communication
- ☐ CSC 3014 (4) Operating Systems
- ☐ CSC 3023 (3) Software Engineering
- ☐ CSC 3094 (4) Programming Languages
- ☐ CSC 4054 (4) Computer Architecture and Assembly Language
- ☐ CSC 4081 (1) Senior Seminar in Computer Science
- ☐ CSC 4093 (3) Software Project
- ☐ ISS 3042 (2) Project Management and Quality Assurance
- ☐ ISS 4014 (4) Data Base Systems and Web Integration
- ☐ MTH 3043 (3) Discrete Mathematics

Choose one sequence from the below

- ☐ CSC 4133 (3) Service Learning in Computer Science
- ☐ CSC 4102 (2) Independent Research in Computer Science I and
- ☐ CSC 4121 (1) Independent Research in Computer Science II
- ☐ ISS 4072 (2) Internship in Information Systems
- ☐ HON 4098 (2) Honors Project I and
- ☐ HON 4099 (1) Honors Project II

* MTH 1044 Calculus with Applications (4) may substitute for MTH 1064 Calculus I (4).

** MTH 3063 Calculus Based Statistics with R (3) or MTH 3083 Mathematical Probability and Statistics (3) may be substituted for MTH 2003 Introduction to Statistics (3).

*** Seven (7) additional units required if ISS 4072 is selected from the "choose one" sequence.

I. Exploring Theology and Philosophy

Biblical Foundations (Both courses required)

- ☐ BIB 1001 (2) Old Testament History and Religion (GE) and
- ☐ BIB 1002 (3) New Testament History and Religion (GE)

The Christian Tradition (Choose one course below)

- ☐ CHU 3040 (3) Women in the Christian Tradition (GE)
- ☐ CHU 3095 (3) The Christian Tradition (GE)
- ☐ THE 3005 (3) Christian Faith and the Natural Sciences (GE)
- ☐ THE 3060 (3) Christian Life as Vocation (GE)
- ☐ THE 3070 (3) Global Christianity (GE)

II. Exploring History, Society, and the Self

Personal Development (First time Freshmen take PSY 1001 and all others take PSY 1003)

- ☐ PSY 1001 (3) Psychology of Personal Development - FYE (GE)
- ☐ PSY 1003 (3) General Psychology (GE)

Critical Thinking and Communication (Choose one WRI and one COM course)

- ☐ WRI 1010 (4) College Composition: Writing & Research- FYE (GE)
- ☐ WRI 1016 (2) College Composition: Research - FYE (GE)
- ☐ COM 1000 (3) Principals of Human Communication (GE)
- ☐ COM 2031 (3) Argumentation and Debate (GE)

The History of World Civilizations (Both courses required)

- ☐ HIS 1010 (3) World Civilizations I (GE) and
- ☐ HIS 1011 (3) World Civilizations II (GE)

The Social World (Choose one course)

- ☐ ECO 1000 (3) Survey of Economics (GE)
- ☐ ECO 1001 (3) Principals of Macroeconomics (GE)
- ☐ ECO 1002 (3) Principals of Microeconomics (GE)
- ☐ POL 1001 (3) Introduction to Political Science (GE)
- ☐ POL 1090 (4) The Politics of Race, Class, and Gender (GE/WS)
- ☐ SOC 1001 (3) Introduction to Sociology (GE)
- ☐ SOC 2001 (3) Cultural Anthropology (GE)
- ☐ SWF 1000 (3) Living Justly in Contemporary Society (GE)

III. Exploring Science and Technology in Society

The Natural World (Choose two courses, one from each group and at least one with a lab)

Biological Science (Choose one course from this group)

- ☐ BIO 1001 (3) Human Biology and Bioethics (GE) and
- ☐ BIO 1001L (1) Human Biology and Bioethics Lab (GE)
- ☐ BIO 1002 (4) Environment and People (GE)
- ☐ BIO 1003 (3) Introduction to Biology (GE) and
- ☐ BIO 1003L (1) Introduction to Biology Lab (GE)
- ☐ BIO 1004 (4) Biotechnology and Society (GE)
- ☐ BIO 1005 (3) Ecology and Conservation (GE) and
- ☐ BIO 1005L (1) Ecology and Conservation Lab (GE)
- ☐ BIO 1030 (3) Human Anatomy and Physiology I (GE) and
- ☐ BIO 1030L (1) Human Anatomy and Physiology I Lab (GE)
- ☐ BIO 2010 (3) Cell Biology and Biochemistry (GE) and
- ☐ BIO 2010L (1) Cell Biology and Biochemistry Lab (GE)
- ☐ BIO 2011 (3) Ecological and Evolutionary Systems (GE) and
- ☐ BIO 2011L (1) Ecological and Evolutionary Systems Lab (GE)

Physical Science (Choose one from this group)

- ☐ CHE 1001 (4) Chemistry and Society (GE)
- ☐ CHE 1002 (3) Chemistry in our Everyday Lives (GE) and
- ☐ CHE 1002L (1) Chemistry in our Everyday Lives Lab (GE)
- ☐ CHE 1003 (4) Intro to General, Organic & Biological Chemistry and
- ☐ CHE 1003L (1) Intro to General, Organic & Biological Chemistry Lab
- ☐ CHE 1052 (4) General Chemistry I (GE) and
- ☐ CHE 1052L (1) General Chemistry I Lab (GE)
- ☐ PHY 1043 (2) The Physics of Sound and Music (GE) and
- ☐ PHY 1043L (1) The Physics of Sound and Music Lab (GE)
- ☐ PHY 1044 (3) General Physics I (GE) and
- ☐ PHY 1044L (1) General Physics I Lab (GE)
- ☐ PHY 2044 (3) University Physics I (GE) and
- ☐ PHY 2044L (1) University Physics I Lab (GE)
- ☐ PSC 1004 (4) The Cosmos (GE)
- ☐ PSC 1014 (4) Physical Science for Teachers (GE)

Physical Fitness and Nutrition

Choose one of the following:

- ☐ KIN 2030 (2) Lifestyle as Medicine (GE)
- ☐ PED 1000 (2) Fitness Through Movement (GE)
- ☐ PED 2000 (2) Optimal Health (GE)
- ☐ SWF 3015 (2) Health and Well-Being (GE)

Choose any one course of PED 1002-PED 1084, KIN 1011, KIN 1013, KIN 1016, KIN 1017, KIN 1018, KIN 1019 or one of the below:

- ☐ PED 2020 (2) Team Sports Fundamentals and Strategies (GE)
- ☐ PED 2025 (2) Individual & Dual Sports Fundamentals & Strategies

Problem Solving (Choose one of the following)

- ☐ MTH 1044 (4) Calculus with Applications (GE)
- ☐ MTH 1064 (3) Calculus I (GE) and
- ☐ MTH 1064L (1) Calculus I Lab (GE)
- ☐ MTH 1073 (3) Business Calculus (GE)
- ☐ MTH 3003 (3) Problem Solving (GE)

IV. Exploring Arts and Culture

The Fine Arts (Choose two courses from distinct areas)

- ☐ ART 1000 (2) Introduction to Art (GE)
- ☐ ART 1002 (3) Fundamentals of Art (GE)
- ☐ ART 2000 (3) History of Art I (GE)
- ☐ ART 2001 (3) History of Art II (GE)
- ☐ MUH 1000 (2) Introduction to Music (GE)
- ☐ MUH 1001 (2) Introduction to Listening (GE)
- ☐ TRE 1001 (2) Introduction to Theatre (GE)

Literature (Choose LIT 2000 and one other upper division course)

- ☐ LIT 2000 (2) Literature and Culture (GE) (required)
- ☐ LIT 3050 (3) World Literature (GE)
- ☐ LIT 3051 (3) World Cinema (GE)
- ☐ LIT 3052 (3) Diverse Voices in American Literature (GE)
- ☐ LIT 3053 (3) Women Writers (GE)
- ☐ FRE 3020 (3) Survey of French Literature (GE)
- ☐ FRE 3025 (3) Francophone Literature (GE)
- ☐ SPA 3020 (3) Mexican American Literature and Culture (GE)
- ☐ SPA 3080 (3) Genre/period Studies in Hispanic Literature or Film
- ☐ SPA 4000 (3) Peninsular Literature Before 1800 (GE)
- ☐ SPA 4002 (3) Peninsular Literature Since 1800 (GE)
- ☐ SPA 4037 (3) Latin American Literature Before 1910 (GE)
- ☐ SPA 4039 (3) Latin American Literature Since 1910 (GE)

Foreign Language (Choose one of the following sequences)

- ☐ CHN 1001 (4) Elementary Chinese (Mandarin) I (GE) and
- ☐ CHN 1002 (4) Elementary Chinese (Mandarin) II (GE)
- ☐ GER 1001 (4) Elementary German I (GE) and
- ☐ GER 1002 (4) Elementary German II (GE)
- ☐ GRK 2007 (4) Biblical Greek I (GE) and
- ☐ GRK 2008 (4) Biblical Greek II (GE)
- ☐ HEB 2005 (4) Biblical Hebrew I (GE) and
- ☐ HEB 2006 (4) Biblical Hebrew II (GE)
- ☐ FRE 1001 (4) Elementary French I (GE) and
- ☐ FRE 1002 (4) Elementary French II (GE)
- ☐ SPA 1001 (4) Elementary Spanish I (GE) and
- ☐ SPA 1002 (4) Elementary Spanish II (GE)

Philosophy (Choose one of the following)

- ☐ PHL 2001 (3) Introduction to Philosophy (GE)
- ☐ PHL 2011 (3) Ethics (GE)