

| FULL STACK WEB DEVELOPMENT CORE REQUIREMENTS | | | | BS-COSC2 -FSWD |
|--|---|--|----------------------|---------------------------|
| COURSE # | COURSE TITLE | PREREQUISITE | CR | SEMESTER |
| Complete one of the following options for 6 credits total: | | | | |
| Option 1 | CS 1420 Accelerated Introduction to Programming + 1 CS elective | Must pass CS 1420 entrance exam. See CS department in CS 520. | 6.0 | F,Sp |
| Option 2 | CS 1400 Fundamentals of Programming | Math at least equivalent to high school algebra and trigonometry. CS 1030 recommended. | 3.0 | F,Sp,Su |
| | CS 1400 Object-Oriented Programming | Math at least equivalent to high school algebra and trigonometry. | 3.0 | F,Sp,Su |
| ▶CS 2300 | Discrete Mathematical Structures I | CS 1410 & (MATH 1050 or higher) | 3.0 | F,Sp,Su |
| CS 2370 | C plus plus Programming | CS 1410 | 3.0 | F,Sp |
| ▶CS 2420 | Intro to Algorithms and Data Structures | CS 1410 | 3.0 | F,Sp,Su |
| CS 2450 | Software Engineering | CS 2300 & 2420 | 3.0 | F,Sp,Su |
| CS 2550 | Web Programming I | CS 1410 or INFO 1200 or DGM 2760 | 3.0 | F,Sp,Su |
| CS 2600 | Computer Networks I | CS 2810 or (INFO 1200 & IT 1600) | 3.0 | F,Sp |
| CS 2810 | Computer Organization and Architecture | CS 1400 | 3.0 | F,Sp,Su |
| CS 305G | Global Social & Ethical Issues in Computing | ENGL 2010 & (CS 1030 or CS 1400 or INFO 1120) | 3.0 | F, Sp |
| CS 3060 | Operating Systems Theory | CS 2370, 2420, 2810, & COSC | 3.0 | F, Sp |
| CS 3100 | Data Privacy and Security | CS 2420 & UAS | 3.0 | F |
| CS 3240 | Discrete Mathematical Structures II | CS 2300, 2420, 2810, COSC | 3.0 | F, Sp |
| CS 3520 | Database Theory | COSC & UAS | 3.0 | F,Sp,Su |
| STAT 2050 | Introduction to Statistical Methods | Within last 2 years: MATH 1050 or 1055 or 1080 with a grade of C or higher, or appropriate test score. | 4.0 | F,Sp,Su |
| FULL STACK WEB DEVELOPMENT EMPHASIS REQUIREMENTS | | | | |
| CS 3250 or 3260 or 3370 or 339R | Java Software Development CsharpNET Software Development C++ Software Development Advanced Programming Language -other | CS 2420, COSC, & UAS COSC & UAS CS 2370, 2810, COSC, & UAS UAS & COCS | 3.0 | F, Sp F, Sp F, Sp |
| CS 3380 | JavaScript Software Development | CS 2420, CS 2550, COSC, & UAS | 3.0 | F, Sp |
| CS 3410 | Human Factors in Software Development | UAS | 3.0 | F, Sp |
| CS 3660 | Web Programming II | CS 2420, CS 2550, & one of (CS 3250 or 3260 or 3270 or 3370), & UAS | 3.0 | F, Sp |
| CS 3680 | Mobile Device Programming | COSC & UAS | 3.0 | F, Sp |
| CS 4660 | NoSQL Database Development | CS 3520, COSC, & UAS | 3.0 | F |
| CS 4690 | Distributed Internet App Dev | CS 3660 & (CS 3250 or CS 3260 or CS 3270 or CS 3370) & UAS | 3.0 | F |
| CS 4880 | Cloud Computing | CS 4690, COSC, & UAS | 3.0 | Sp |
| CS 4900 | Full Stack Web Senior Capstone | CS 3410, CS 4660, (CS 3250 or CS 3260) & UAS | 3.0 | Sp |
| Complete 9 credits of CS electives (see Wolverine Track for options) | | | 9.0 | |
| | | | Core Credit Required | 87 |

✓ **Minimum grade of "C-" required unless a higher grade is designated.**

UAS - University Advanced Standing Requirement: Before students can register for upper-division coursework (3000 or higher), they must qualify for University Advanced Standing (UAS) by:

- Completing, and/or transferring in, at least 24 credits of college-level coursework (1000 or higher);
- Having a cumulative GPA of 2.0 or higher;
- Complete Quantitative Literacy, (MAT 1030 or higher) and ENGL 2010 or equivalent.

GENERAL EDUCATION REQUIREMENTS

| COURSE # | COURSE TITLE | PREREQUISITE | CR |
|--|---|---|-----|
| ENGL 1010 OR ENGL 1005 | Introduction to Writing Literacies and Compositions Across Contexts CC | ENGL 1000 with C- or higher (or appropriate test scores within 5 yrs.) ENGL 0890 (or appropriate placement scores.) | 3.0 |
| ENGL 2010 | Intermediate Writing | Completion of ENGL 1010 or ENGL 101H with a grade of C- or higher, or ENGL 1005 with a grade of C or higher. (Or appropriate ACT test scores taken within the last 3 years.) | 3.0 |
| MATH 1210 | Calculus I | One of the following within the past 2 years: (MATH 1050 or MATH 1055) & MATH 1060, each with a grade of C or higher; OR MATH 1080 with a grade of C or higher; OR by appropriate math placement score. | 4.0 |
| AMERICAN INSTITUTIONS Choose option 1 or 2 | 1. (One class) HIST 1700 American Civilization, or HIST 1740 US Economic History, or POLS 1000 American Heritage, or POLS 1100 American National Gov't 2. (Two classes) US History (HIST 2700 & HIST 2710) | | 3.0 |
| HLTH1100 or PES1097 | Personal Health & Wellness or Fitness for Life | | 2.0 |
| PHIL 2050 | Ethics & Values | ENGL 1010. ENGL 2020 highly recommended | 3.0 |
| HUMANITIES DISTRIBUTION | COMM 1020 & 1025 | Public Speaking and Lab are Required. A grade of C- or higher is required. | 3.0 |
| THIRD SCIENCE DISTRIBUTION—Complete one of the following: | | | 5.0 |
| BIOL 1610 & 1615 | College Biology I and Lab | ACT (or equivalent) composite score of 21+, or completion of ENGL1010 (or higher) with a minimum grade of C- | |
| CHEM 1210 & 1215 | Principles of Chemistry I and Lab | MATH 1080, 1050, 1055 with C- or better or placement into 1060 or higher, (CHEM 1010 or high school recommended). Corequisite: CHEM 1215 | |
| GEO 1010, 1015 & 202R | Intro to Geology, Lab, & Excursion | All three classes are required if you choose Geology | |
| PHYS 2020 & 2025 | College Physics II + Lab | PHYS 2010 Corequisite(s): PHYS 2025 | |
| PHYS 2220 & 2225 | Physics for Scientists and Engineers II and Lab | PHYS 2210 Corequisite(s): PHYS 2225 and Pre or Corequisite: MATH 1220 | |
| PHYS 2210 & 2215 | Physics for Scientists and Engineers I and Lab | MATH 1210 or PHYS 1100; Co-requisite: PHYS 2215 | |
| FINE ARTS DISTRIBUTION (see Wolverine Track for class list) | | | 3.0 |
| SOCIAL/BEHAVIORAL SCIENCE DIST | COMM 2110 | Interpersonal Communication is Required. A grade of C- or higher is required. | 3.0 |
| BIOLOGY SCIENCE DISTRIBUTION (see Wolverine Track for class list) | | | 3.0 |
| PHYSICAL SCIENCE DISTRIBUTION (see Wolverine Track for class list) | | | 3.0 |
| GE Credits Required | | | 33 |
| Core Credits Required | | | 87 |
| Total Credits Required for Degree: | | | 120 |

► **Matriculation Requirements (COSC):**

1. Completion of CS 1400, CS 1410, CS 2300, and CS 2420 with a grade of C+ or better.
2. Completion of MATH 1210 and ENGL 1010 or ENGL 1005 with a grade of C or better.
3. Overall GPA of 2.5 or higher. Each class cannot be taken more than twice to obtain the required grade.

GRADUATION REQUIREMENTS:

1. Completion of a minimum of 120 semester credits, with a minimum of 40 upper-division credits.
2. Overall grade point average of 2.0 or above.
3. Must have a minimum grade of C- with a combined GPA of 2.5 or higher in all discipline requirements and the General Education requirements that are marked with an *.
4. Residency hours - - minimum of 30 credit hours through course attendance at UVU. 10 of these hours must be within the last 45 hours earned.
5. All transfer credit must be approved in writing by UVU courses.
6. No more than 80 semester hours and no more than 20 hours in CDS-type courses of transfer credit from a two-year college.
7. No more than 30 semester hours may be earned through independent study and/or extension classes.
8. Successful completion of at least one Global/Intercultural course. CS 305G satisfies this requirement