

## **Program Overview**

This agreement establishes a plan whereby an undergraduate student will attend Whitworth University for approximately three (3) academic years and the University of Southern California Viterbi School of Engineering for approximately two (2) academic years. After being admitted and satisfying the academic requirements of the two institutions, the student will be awarded a Bachelor's degree from Whitworth University and a Bachelor's degree from the University of Southern California Viterbi School of Engineering, provided the required core courses are completed.

## **Admission Guidelines**

To be competitive for admission, the student is expected to:

- i. earn a minimum overall GPA of 3.0 showing demonstrated success in math and science
- ii. complete required core courses prior to enrolling at USC
- iii. be in good academic and judicial standing at Whitworth University

Applicants must complete the USC application process for admission. Admission requirements for students participating in the 3+2 Program with Whitworth University are developed by the USC Viterbi School and may change year to year. Applicants are strongly encouraged to visit <http://viterbiadmission.usc.edu> for additional admission information.

## **Residency**

It is expected that students applying for this program have attended Whitworth University for three consecutive years prior to admission to USC. Students apply for the 3+2 Program during their third year. If a student has attended Whitworth University for four (4) academic years, they may be considered for the 3+2 Engineering Program provided they have met all of the admission requirements for the 3+2 Engineering Program, and they will not receive a Bachelor's degree from Whitworth University School until they have completed the engineering degree requirements at USC. All students applying should be aware that they may not qualify for federal financial aid if they received federal financial aid for four (4) years at Whitworth University. All students must complete a minimum of forty-eight (48) units in residence at USC.

## **Core Curriculum**

The following sections include the engineering degrees awarded by USC through the 3+2 Engineering Program with Whitworth University, including required courses for each major. In order to complete the 3+2 Engineering Program in two years at USC, courses listed below should be completed prior to USC enrollment. In addition to the courses listed below, students must satisfy all General Education requirements at Whitworth University prior to enrollment at USC, with the exception of Writing 340 (Advanced Writing) which must be taken at USC. Only grades of a "C" or better will transfer to the USC Viterbi School of Engineering.

It is strongly recommended that Whitworth University students participating in this program consult the current academic handbook for the USC Viterbi School of Engineering relative to their progress in the program

and establish contact with the USC Viterbi Admission & Student Affairs Office as soon as they become interested in this program.

Properly articulated, the courses listed below will satisfy requirements at the USC Viterbi School of Engineering for the respective majors. Please consult the 3+2 Program Student Guide (below) for specific Whitworth University course numbers. Please note - all coursework taken prior to enrollment at USC is subject to review to determine admission eligibility for the 3+2 Engineering Program at USC.

The program requirements listed in the USC Catalogue supersede any information which may be contained in this or any other publication of any school or department. The University reserves the right to change its policies, rules, regulations, requirements and course offerings at any time.

## Whitworth University 3+2 Program Student Guide

Below are the courses students should take at Whitworth University based on their intended major at the USC Viterbi School of Engineering.

### Aerospace & Mechanical Engineering

In addition to completing the courses listed below, completion of Statics and Dynamics is strongly recommended prior to enrolling at USC.

Degree Program	MATH	CHEMISTRY	PHYSICS	COMPUTER PROGRAMMING
Aerospace Engineering, B.S. Mechanical Engineering, B.S. Mechanical Engineering (Petroleum), B.S.	MA 171, 172, 273, Differential Equations	CH 161 + lab	PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism, PS 251W	MATLAB

### Astronautical Engineering

In addition to completing the courses listed below, completion of Statics is strongly recommended prior to enrolling at USC.

Degree Program	MATH	CHEMISTRY	PHYSICS	COMPUTER PROGRAMMING
Astronautical Engineering, B.S.	MA 171, 172, 273, Differential Equations	CH 161 + lab	PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism, PS 251W	MATLAB

### Biomedical Engineering

Biomedical Students (all degree programs) may consult the Viterbi School of Engineering for possible Biology course recommendations.

Degree Program	CHEMISTRY	PHYSICS	MATH	COMPUTER PROGRAMMING
Biomedical Engineering, B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab, Organic Chemistry II + lab	PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism	MA 171, 172, 172, 273, Differential Equations	MATLAB
Biomedical Engineering (Biochemical), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab, Organic Chemistry II + lab			
Biomedical/Electrical Engineering (combined program), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab			
Biomedical/Mechanical Engineering(combined program), B.S.*	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab			

\*Biomedical/Mechanical students are advised to complete Statics prior to enrolling at USC.

**Chemical Engineering**

The Chemical Engineering degrees listed below cannot normally be completed in two years. Usually, at least one or two additional semesters is needed to complete the degree. Chemical Engineers who plan to complete the Chemistry courses listed here should contact the Viterbi School of additional chemistry recommendations.

Degree Program	CHEMISTRY	PHYSICS	MATH	COMPUTER PROGRAMMING
Chemical Engineering, B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab, Organic Chemistry II + lab			
Chemical Engineering (Biochemical), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab			
Chemical Engineering (Environmental), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab			
Chemical Engineering (Nanotechnology), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab	PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism	MA 171, 172, 172, 273, Differential Equations	MATLAB
Chemical Engineering (Petroleum), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab, Organic Chemistry II + lab			
Chemical Engineering (Polymers/Materials Science), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab, Organic Chemistry II + lab			
Chemical Engineering (Sustainable Energy), B.S.	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab, Organic Chemistry II + lab			

## Civil & Environmental Engineering

The *Civil Engineering, B.S.* and *Civil Engineering (Structural), B.S.* degree programs can not normally be completed in two years unless Statics, Strength of Materials, and Dynamics are completed prior to enrolling at USC.

Degree Program	BIOLOGY	CHEMISTRY	Additional Courses	PHYSICS	MATH	COMPUTER PROGRAMMING
Civil Engineering, B.S.	N/A	CH 161 + lab	Statics, Strength of Materials, & Dynamics	PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism	MA 171, 172, 273, Differential Equations	MATLAB
Civil Engineering (Environmental), B.S.	General Biology II: Cell Biology & Physiology + lab	CH 161 + lab, 181 + lab or 281 + lab	Statics, Strength of Materials, & Dynamics			
Civil Engineering (Structural), B.S.	N/A	CH 161 + lab	Statics, Strength of Materials, & Dynamics			
Environmental Engineering, B.S.*	General Biology II: Cell Biology & Physiology + lab	CH 161 + lab, 181 + lab or 281 + lab, Organic Chemistry I + lab	Statics			

\**Environmental Engineering* students may need to take one additional course during the summer term at USC

## Computer Engineering & Computer Science

The Computer Engineering & Computer Science, B.S. degree program can not normally be completed in two years unless students pass the Computer Science Challenge exam that allows a student to be waived from taking USC's CSCI 103 (Intro to Programming).

Degree Program	MATH	PHYSICS	COMPUTER PROGRAMMING
Computer Engineering/Computer Programming, B.S.	MA 171, 172, 273, 330	PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism	Students are strongly recommended to take a C++ programming course. Doing so may help prepare them to take the Comp. Sci. Department's Challenge Exam upon enrollment at USC.

## Electrical Engineering

Degree Program	MATH	BIOLOGY	PHYSICS	COMPUTER PROGRAMMING
Electrical Engineering	MA 171, 172, 273, Differential Equations	General Biology I: Organismal Biology & Evolution + lab or General Biology II: Cell Biology & Physiology + lab	PHYS I: PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism, PHYS III: PS 251W	MATLAB

## Industrial & Systems Engineering

Degree Program	MATH	CHEMISTRY	PHYSICS	COMPUTER PROGRAMMING
Industrial & Systems Engineering, (Operations) B.S.	MA 171, 172, 172, 273, 330	CH 161 + lab	PS 151 + lab + 153 + lab, PHYS II: Electricity & Magnetism	C++
Industrial & Systems Engineering (Information Systems), B.S.				