

## **Program Overview**

This agreement establishes a plan whereby an undergraduate student will attend Whittier College 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 Whittier College 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 Whittier College

Applicants must complete the USC application process for admission. Admission requirements for students participating in the 3+2 Program with Whittier College 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 Whittier College 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 Whittier College 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 Whittier College 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 Whittier College. 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 Whittier College, 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 Whittier College 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 Whittier College 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 Whittier College 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.

## Whittier College 3+2 Program Student Guide

Below are the courses students should take at Whittier College 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.	MATH 141A, 141B, 241, 345A	CHEM 110A	PHYS 150 + 180, 275	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.	MATH 141A, 141B, 141B, 241, 345A	CHEM 110A	PHYS 150 + 180, 275	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.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A, CHEM 231B + 233B or CHEM 331B + 333B	PHYS 150 + 180	MATH 141A, 141B, 241, 345A	MATLAB
Biomedical Engineering (Biochemical), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A, CHEM 231B + 233B or CHEM 331B + 333B			
Biomedical/Electrical Engineering (combined program), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A			
Biomedical/Mechanical Engineering(combined program), B.S.*	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A			

\*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.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A, CHEM 231B + 233B or CHEM 331B + 333B	PHYS 150 + 180	MATH 141A, 141B, 241, 345A	MATLAB
Chemical Engineering (Biochemical), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A			
Chemical Engineering (Environmental), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A			
Chemical Engineering (Nanotechnology), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A			
Chemical Engineering (Petroleum), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A, CHEM 231B + 233B or CHEM 331B + 333B			
Chemical Engineering (Polymers/Materials Science), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A, CHEM 231B + 233B or CHEM 331B + 333B			
Chemical Engineering (Sustainable Energy), B.S.	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A, CHEM 231B + 233B or CHEM 331B + 333B			

## 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	CHEM 110A	Statics, Strength of Materials, & Dynamics	PHYS 150 + 180	MATH 141A, 141B, 241, 345A	MATLAB
Civil Engineering (Environmental), B.S.	BIOL 151 + 152	CHEM 110A, 110B	Statics, Strength of Materials, & Dynamics			
Civil Engineering (Structural), B.S.	N/A	CHEM 110A	Statics, Strength of Materials, & Dynamics			

Environmental Engineering, B.S.*	BIOL 151 + 152	CHEM 110A, 110B, CHEM 231A + 233A or CHEM 331A + 333A	Statics			
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\*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.	MATH 141A, 141B, 241, 242 or 380	PHYS 150 + 180	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	MATH 141A, 141B, 241, 345A	General Biology I: Organismal Biology & Evolution + lab or BIOL 151 + 152	PHYS 150 + 180, 275	MATLAB

## Industrial & Systems Engineering

Degree Program	MATH	CHEMISTRY	PHYSICS	COMPUTER PROGRAMMING
Industrial & Systems Engineering, (Operations) B.S.	MATH 141A, 141B, 241, 242 or 380	CHEM 110A	PHYS 150 + 180	C++
Industrial & Systems Engineering (Information Systems), B.S.				