

## **Program Overview**

This agreement establishes a plan whereby an undergraduate student will attend BIOLA 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 BIOLA 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 BIOLA University

Applicants must complete the USC application process for admission. Admission requirements for students participating in the 3+2 Program with BIOLA 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 BIOLA 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 BIOLA 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 BIOLA 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 BIOLA 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 BIOLA 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 BIOLA 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 BIOLA University students participating in this program consult the current academic handbook for the USC Viterbi School of Engineering and the USC Catalogue 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 BIOLA 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.

## BIOLA University 3+2 Program Student Guide

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

### Aerospace & Mechanical Engineering

Completion of PHSC 313 and PHSC 316 is strongly recommended prior to enrolling at USC.

Degree Program	MATH	CHEMISTRY	PHYSICS	ADDITIONAL COURSES*	COMPUTER PROGRAMMING
Aerospace Engineering, B.S.	MATH 105, 106, 205, 335	CHEM 105	PHSC 132 + 134, 233 + 234 + 237	PHSC 313 PHSC 316	MATLAB
Mechanical Engineering, B.S.					
Mechanical Engineering (Petroleum), B.S.					

### Astronautical Engineering

Completion of PHSC 313 is strongly recommended prior to enrolling at USC.

Degree Program	MATH	CHEMISTRY	PHYSICS	ADDITIONAL COURSES*	COMPUTER PROGRAMMING
Astronautical Engineering, B.S.	MATH 105, 106, 205, 335	CHEM 105	PHSC 132 + 134, 233 + 234 + 237	PHSC 313	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 105, 106, 301 + 311, 302 + 312	PHSC 132 + 134, 233 + 234 + 237	MATH 105, 106, 205, 335	MATLAB
Biomedical Engineering (Molecular-Cellular), B.S.	CHEM 105, 106, 301 + 311, 302 + 312			
Biomedical Engineering (Electrical), B.S.	CHEM 105, 106, 301 + 311			
Biomedical Engineering (Mechanical), B.S.*	CHEM 105, 106, 301 + 311			

\*Biomedical/Mechanical students are advised to complete PHSC 313 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 105, 106, 301 + 311, 302 + 312	PHSC 132 + 134, 233 + 234 + 237	MATH 105, 106, 205, 335	MATLAB
Chemical Engineering (Biochemical), B.S.	CHEM 105, 106, 301 + 311			
Chemical Engineering (Environmental), B.S.	CHEM 105, 106, 301 + 311			
Chemical Engineering (Nanotechnology), B.S.	CHEM 105, 106, 301 + 311			
Chemical Engineering (Petroleum), B.S.	CHEM 105, 106, 301 + 311			
Chemical Engineering (Polymers/Materials Science), B.S.	CHEM 105, 106, 301 + 311, 302 + 312			
Chemical Engineering (Sustainable Energy), B.S.	CHEM 105, 106, 301 + 311, 302 + 312			

**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 PHSC 313, PHSC 314, and PHSC 316 are completed prior to enrolling at USC.

Degree Program	BIOLOGY	CHEMISTRY	Additional Courses	PHYSICS	MATH	COMPUTER PROGRAMMING
Civil Engineering, B.S.	N/A	CHEM 105	PHSC 313, PHSC 314, & PHSC 316	PHSC 132 + 134, 233 + 234 + 237	MATH 105, 106, 205, 335	MATLAB
Civil Engineering (Construction), B.S.	N/A	CHEM 105	PHSC 313, PHSC 314, & PHSC 316			
Civil Engineering (Water Resources), B.S.	N/A	CHEM 105	PHSC 313, PHSC 314, & PHSC 316			
Civil Engineering (Environmental), B.S.	BIOS 111 + 112 + 113 + 114	CHEM 105, 106	PHSC 313, PHSC 314, & PHSC 316			
Civil Engineering (Structural), B.S.	N/A	CHEM 105	PHSC 313, PHSC 314, & PHSC 316			
Environmental Engineering, B.S.*	BIOS 111 + 112 + 113 + 114	CHEM 105, 106, 301 + 311	PHSC 313			

\**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	SCIENCE	COMPUTER PROGRAMMING
Computer Engineering/Computer Science, B.S. *	MATH 105, 106, 205, 291	PHSC 132 + 134, 233 + 234 + 237	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.
Computer Science, B.S.	MATH 105, 106, 205, 291	PHSC 132 + 134, 233 + 234 + 237 Or CHEM 105, 106 Or BIOS 111 + 112 + 113 + 114	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.
Computer Science (Games), B.S.	MATH 105, 106, 291	PHSC 132 + 134	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	PHYSICS	COMPUTER PROGRAMMING
Electrical Engineering	MATH 105, 106, 205, 335	PHSC 132 + 134, 233 + 234 + 237, 233 + 234 + 237	MATLAB

**Industrial & Systems Engineering**

Degree Program	MATH	CHEMISTRY	PHYSICS	COMPUTER PROGRAMMING
Industrial & Systems Engineering (Information Systems), B.S.	MATH 105, 106, 205, 291	CHEM 105	PHSC 132 + 134, 233 + 234 + 237	C++
Industrial & Systems Engineering, (Operations) B.S.				