

## Pitzer College 3+2 Program Student Guide

Below are the courses students should take at Pitzer 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.              | MATH 30 PZ, 31 PZ, 32 PZ, 102 PZ | CHEM 14L KS | PHYS 33L KS + 34L KS, 35L KS | MATLAB               |
| Mechanical Engineering, B.S.             |                                  |             |                              |                      |
| Mechanical Engineering (Petroleum), B.S. |                                  |             |                              |                      |

### 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 30 PZ, 31 PZ, 32 PZ, 102 PZ | CHEM 14L KS | PHYS 33L KS + 34L KS, 35L KS | 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 14L KS, 15L KS, 116L KS, 117L KS | PHYS 33L KS + 34L KS | MATH 30 PZ, 31 PZ, 32 PZ, 102 PZ | MATLAB               |
| Biomedical Engineering (Biochemical), B.S.                 | CHEM 14L KS, 15L KS, 116L KS, 117L KS |                      |                                  |                      |
| Biomedical/Electrical Engineering (combined program), B.S. | CHEM 14L KS, 15L KS, 116L KS          |                      |                                  |                      |
| Biomedical/Mechanical Engineering(combined program), B.S.* | CHEM 14L KS, 15L KS, 116L KS          |                      |                                  |                      |

\*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 14L KS, 15L KS, 116L KS, 117L KS | PHYS 33L KS + 34L KS | MATH 30 PZ, 31 PZ, 32 PZ, 102 PZ | MATLAB               |
| Chemical Engineering (Biochemical), B.S.                | CHEM 14L KS, 15L KS, 116L KS          |                      |                                  |                      |
| Chemical Engineering (Environmental), B.S.              | CHEM 14L KS, 15L KS, 116L KS          |                      |                                  |                      |
| Chemical Engineering (Nanotechnology), B.S.             | CHEM 14L KS, 15L KS, 116L KS          |                      |                                  |                      |
| Chemical Engineering (Petroleum), B.S.                  | CHEM 14L KS, 15L KS, 116L KS, 117L KS |                      |                                  |                      |
| Chemical Engineering (Polymers/Materials Science), B.S. | CHEM 14L KS, 15L KS, 116L KS, 117L KS |                      |                                  |                      |
| Chemical Engineering (Sustainable Energy), B.S.         | CHEM 14L KS, 15L KS, 116L KS, 117L KS |                      |                                  |                      |

## 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 14L KS                  | Statics, Strength of Materials, & Dynamics | PHYS 33L KS + 34L KS | MATH 30 PZ, 31 PZ, 32 PZ, 102 PZ | MATLAB               |
| Civil Engineering (Environmental), B.S. | BIOL 43L KS + 44L KS | CHEM 14L KS, 15L KS          | Statics, Strength of Materials, & Dynamics |                      |                                  |                      |
| Civil Engineering (Structural), B.S.    | N/A                  | CHEM 14L KS                  | Statics, Strength of Materials, & Dynamics |                      |                                  |                      |
| Environmental Engineering, B.S.*        | BIOL 43L KS + 44L KS | CHEM 14L KS, 15L KS, 116L KS | 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. | MATH 30 PZ, 31 PZ, 32 PZ,<br>Linear Algebra | PHYS 33L KS + 34L KS | 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 30 PZ, 31 PZ, 32 PZ, 102 PZ | BIOL 43L KS + 44L KS | PHYS 33L KS + 34L KS, 35L KS | MATLAB               |

### Industrial & Systems Engineering

| Degree Program   | MATH                                     | CHEMISTRY   | PHYSICS              | COMPUTER PROGRAMMING |
|--|--|-------------|----------------------|----------------------|
| Industrial & Systems Engineering, (Operations) B.S.          | MATH 30 PZ, 31 PZ, 32 PZ, Linear Algebra | CHEM 14L KS | PHYS 33L KS + 34L KS | C++                  |
| Industrial & Systems Engineering (Information Systems), B.S. |  |             |                      |                      |