

# STEWART SCIENCE HONORS PROGRAM

## Mission

The Stewart Science Honors Program (<https://www.biola.edu/science/honors/>) is a highly selective, academically-rigorous, research-intensive, technology-driven interdisciplinary program, built on an intimate and collaborative community of exceptional students, original research projects, and close mentorship and advising from professors and national STEM leaders, aimed at producing innovative leaders in the sciences who understand and articulate the harmony of a Christian worldview and the sciences.

Open to a small group (12-16) of incoming School of Science, Technology and Health students each fall, the four-year program prepares students to become highly skilled, transformational Christian leaders, with a strong competitive advantage as they move on to top graduate schools or pursue professional opportunities.

## Program Plan

The Stewart Science Honors Program admits students prior to their first-year (15 credits or less) of matriculating to Biola. All majors in the School of Science, Technology, and Health are eligible for the program.

Students' work and participation in the program will fall under four distinct areas of focus: 1) a summer undergraduate research experience, 2) specialized coursework, 3) Stewart speaker seminars, and 4) a senior capstone project.

1. **Summer Undergraduate Research Experience:** Students in the Stewart Science Honors Program are required to complete at least one, full-time, 10-week, on-campus summer research residency. Students will work closely with an assigned academic mentor on an individualized research project. All students must participate in this research experience during one of their first three summers at Biola. Exceptions to this rule can be made at the discretion of the Director, and are usually only made under the circumstance that students find a similar, competitive internship experience at another laboratory or scientific institution off campus, which can be substituted for their on-campus Biola summer experience.
2. **Specialized Coursework:** All students in the Stewart Science Honors Program wishing to earn the Stewart Certificate are recommended to take ENGL 313: Scientific and Technical Communication and one of the following: BBST 465: Science & Society or BBST 465: Philosophy of Science. In addition, students seeking the Stewart Science Honors Certificate will be required to take 6 SHNR Special Topics courses (0.5 credits each), which must be taken over the course of their time at Biola, one each semester.
3. **Stewart Speaker Seminars:** Students in the Stewart Science Honors Program will be asked to participate in Stewart Speaker seminars each semester in attendance at the university. Typically, one seminar is offered per month. These STH-wide seminars feature guest speakers, normally national or international leaders in their respective STEM fields. Students are asked to read up on guest speakers before each seminar and to sign up to attend a pre-meeting or post-meeting dinner with at least one speaker per semester.
4. **Senior Capstone Project:** All Stewart Scholars (with the exception of students in the 3-2 program) will be required to complete a senior capstone project in the form of a written thesis or project in close

conjunction with the help of their Faculty Fellow, culminating in a final written report and oral presentation. In preparation for the Senior Honors Capstone, Scholars will complete a written research proposal and oral proposal during the year prior, in most cases in conjunction with the ENGL 313 course "Scientific and Technical Communication" or "Writing in the Disciplines." The goal of the Stewart Honors Capstone is to introduce students to a wide-variety of research-related experiences that are typical of activities professional scientists in their discipline engage in. The project will represent a significant and original piece of work that students will carry out largely independently, with the assistance of their respective Faculty Fellow. Over the course of the project, students will experience and progress through the initial stages of project development and experimental design to collection and analysis of data, culminating in presentations in written and oral format during the student's final semester at Biola. A Senior Capstone Project is not required for 3-2 Engineering students.

## Stewart Science Honors Certificate

Students who attend and complete the work required for six, 0.5 credit Stewart Seminars, who complete the Stewart Capstone written and oral project, enroll in the respective ENGL 313 and BBST 465 sections, and complete their undergraduate degree while in good standing with the Stewart Science Honors Program (minimum overall 3.5 GPA) will receive a Stewart Science Honors Certificate. Certificates are presented at a ceremony each spring.

## Advanced Placement Credit

Advanced placement and college credit earned during high school will transfer over toward Core Curriculum credits at Biola University, unless the student is also co-enrolled in the Torrey Honors College, in which case these credits do not transfer.

## Learning Outcomes

### Program Learning Outcomes

Upon completion of the Stewart Science Honors Program, students will be able to:

1. Demonstrate the ability to retrieve and summarize knowledge on a complex scientific problem, design and propose in written and oral form a well-thought out series of novel scientific experiments, and collect, summarize, and communicate key scientific findings to broad audiences.
2. Summarize the key issues in science and faith while recognizing and articulating the harmony possible while studying God's creation.

## Requirements

### Admissions Requirements

The Stewart Science Honors Program is highly selective. The minimum requirement towards application into the program is a high school GPA of > 3.6 and SAT score of >1320 or ACT score >29. The average GPA and SAT scores of the first two cohorts of the Stewart program were 3.9 GPA and 1440 SAT. In addition, students are admitted based on a series of essays and conversations with the Director of the program and the program's faculty fellows. The Stewart Science Honors Program aims to recruit a diverse set of students from varied backgrounds and

experiences, and highly values students who are creative problem solvers, great communicators, and entrepreneurial thinkers.

## **Curriculum Requirements**

Students in the Stewart Science Honors Program will complete all Core Curriculum and Major courses required for Biola graduation. Stewart's curriculum requirements fall under two categories:

### **Required**

All students in the Stewart Science Honors Program are required to take specific sections of classes for their ENGL 313 and BBST 465 coursework. These sections are:

ENGL 313: Scientific and Technical Communication

BBST 465: Science & Society or BBST 465 Philosophy of Science

### **Stewart Science Honors Program Certificate**

Students seeking the Stewart Science Honors Program Certificate are required to complete 6 additional Special Topics courses (0.5 credits each) over the course of their time at Biola. Four of these courses must be taken at the 200 level (SHNR 200) and 2 must be taken at the 400 level (SHNR 400).