



# SCHOOL OF ENGINEERING

**OUR MISSION:** Expose students to Engineering fields through curricular enhancement, mentoring relationships, and educational experiences - providing insight to His calling in their lives

## THE PROGRAM

The School of Engineering (SOE) at CVCA is a two-year curriculum designed to groom high school students to be successful, impactful Christians in an undergraduate engineering program. The curriculum touches on all major engineering disciplines and allows students to dive deeper into areas of interest through individualized projects, guest lectures, Jterm or Mterm internships, and mentoring relationships from area universities and companies.

## THE APPLICATION PROCESS

Students must apply for acceptance into the School of Engineering during the first semester of their sophomore year. Due to a limited number of spaces available in the School of Engineering, it is in your best interest to submit your application as soon as possible.

1. Fill out SOE Application with teacher references.
2. Interview with SOE Chair.
3. Once accepted to the SOE, schedule classes with the Guidance Office.

## REQUIREMENTS

Students must pass each class to continue in the program. Students need to complete exams.

### Engineering 1 - Fall (0.5 credit)

Advanced Algebra is a co-requisite. Approval is required from the Engineering Department.

### Engineering 2 - Spring (0.5 credit)

Engineering 1 is a prerequisite and Advanced Algebra is a co-requisite. Approval is required from the Engineering Department.

### Engineering 3 - Fall (0.5 credit)

Engineering 2 is a prerequisite. Pre-Calculus and Physics are co-requisites. Approval is required from the Engineering Department.

### Engineering 4 - Fall (0.5 credit)

Engineering 3 is a prerequisite. Pre-Calculus and Physics are co-requisites. Approval is required from the Engineering Department.

### Mentoring (1 hour per month)

Students will participate in a mentorship program with engineering professionals from the area to build relationships and prepare students for the engineering world.

### Internships (40 hours)

Students will complete a 40-hour internship coordinated and approved by the Engineering Department. The internship will occur after a student's junior year and prior to spring break of his/her senior year.

Schools of Distinction provide an innovative opportunity for CVCA students. **Designed for juniors and seniors**, the two-year curriculum exposes students to professional fields and potential majors. This program is in addition to CVCA's already rigorous college prep curriculum.

### The Mission of all Schools of

**Distinction:** "To expose our students to professional fields through..."

- Curricular enhancements (extra classes in a specific field)
- Mentoring relationships (monthly meetings with a Christian in a specific field)
- Experiential learning (internships, shadowing, competitions, guest lecturers, projects, etc.)

...providing insight into His calling in their lives."

### SOE CONTACT:

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## FEES

The School of Engineering is \$300 per year. Once accepted, a student's position in the program is only confirmed with complete payment within three weeks. Unconfirmed positions may be offered to other candidates on the list. The fees include mentoring program, internship program, guest speakers, specialized instruction, materials, and one-on-one training.

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## DISTINCTIONS

Students who complete all School of Engineering requirements will receive:

**Engineering Cord at Graduation:** Students receive an orange cord for graduation.

**Transcript Designation:** Students receive a special distinction on their transcript.

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## JTERM/MTERM

Students will have the opportunity to shadow in engineering fields of interest during Jterm or Mterm.

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## MENTORSHIPS

Every student in the School of Engineering will have the valuable experience of being mentored by an engineer currently in the field. Many individuals are offering their time and expertise to our students. Mentorships have the following criteria:

- The mentorship will begin during a student's junior year and continue through graduation from the School of Engineering.
  - Once a month, students will spend an hour with the mentor speaking about the mentor's work (with a biblical world view).
  - Mentors will be sent an email of the topic and questions that the student will be asking.
  - It is desirable that the mentorship will lead to a more meaningful internship.
  - It is preferred that conversations be in person, but could be done on the phone.
  - The student will keep an Engineering Notebook of his/her time with the mentor.
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## INTERNSHIPS and EDUCATIONAL EXPERIENCES

Every student in the School of Engineering participates in a 40-hour internship prior to graduation. Internships have the following criteria:

- May be completed any time prior to graduation. An optimal time is during Jterm, Mterm, or summer break.
- The student is required to spend 40 hours with mentor (or equivalent) at his/her place of employment.
- Students have a daily log and reflection page to complete each day of the internship.
- The expectation is that students are engaged in a meaningful engineering project during the internship that would provide important insight into a career as an engineer.

School of Engineering students have the opportunity to participate in field trips, conferences, and competitions (Best Robotics, TEAMS Competition, West Point Bridge Builder, Robotics Competition, and National Engineering Design Competition).

