

School of Engineering



Our mission is to expose students to Engineering fields through curricular enhancement, mentoring relationships, and educational experiences; providing insight to His calling in their lives.

Program

The School of Engineering 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, J-terms, internships, and mentoring relationships from area universities and companies.

Application

Students must apply for acceptance into the School of Engineering beginning their junior year.

1. SOE Application with teacher recommendations.
2. Interview with School of Engineering Chair.
3. Once accepted into the School of Engineering, schedule classes with Guidance.

There is 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, beginning in February.

Requirements

All students must pass each class to continue in the program. All students will need to complete exams.

Engineering I—Fall (0.5 credit)

Advanced Algebra is a co-requisite.
Approval of Engineering Department.

Engineering II—Spring (0.5 credit)

Engineering I is a prerequisite;
Advanced Algebra is a co-requisite.
Approval of Engineering Department.

Engineering III—Fall (0.5 credit)

Engineering II is a prerequisite.
Pre-Calculus is a co-requisite.
Approval of Engineering Department.

Engineering IV (0.5 credit)

Engineering III is a prerequisite.
Pre-Calculus is a co-requisite.
Approval of 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 between the time frame after a student's junior year and prior to spring break of a student's senior year.

J-term

J-term

Students will have the opportunity to participate in an amazing cross-cultural experience with students from The Engineering Academy at Hoover High School in Birmingham, Alabama.



Distinctions

Students who complete all of the requirements set out by the School of Engineering will receive the following distinctions:

Engineering Chord at Graduation

Students will receive a traditional orange chord for graduation

Transcript Designation

Students will receive a special distinction on their transcript.

Fees

The cost for the School of Engineering is \$275 per year. Once accepted into the program, 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. (Fee for Class of 2013 is \$200.)

The fees include mentoring program, internship program, guest speakers, specialized instruction, materials, and one-on-one training.



ProEngineering CAD Software



The Go-Kart unit is a class favorite



Engineering Drawings with Legos

School of Engineering
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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. There are many individuals who are offering their time and expertise to our students.

Mentorships will 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 on the topic of mentor's work (with a biblical worldview).
- Mentors will be sent an email of the topic and list of questions that the student will be asking.
- It is desirable that the time spent during the mentorship will lead to a more meaningful internship.
- Primary desire is that conversations be in person, but could be on the phone.
- Student will keep an Engineering Notebook of his/her time together with the mentor.

Internships/Educational Experiences/Competitions

Every student in the School of Engineering will participate in a 40-hour internship prior to graduation.

Internships will have the following criteria:

- The internship will occur between the summer after the student's junior year and spring break of the student's senior year. (An optimal time is the 8-day J-term period)
- The student will be required to spend 40 hours with mentor at his/her place of employment.
- The student will have a daily log and reflection page to fill out each day of the internship.
- Students will be visited by School of Engineering staff during their internship.
- The expectation is that students are engaged in a meaningful project while participating in the internship. Our desire is that students will be doing engineering work that would provide important insight into a career as an engineer.

Students in the School of Engineering will have the opportunity to participate in additional educational experiences including field trips, conferences, and competitions (i.e. TEAMS Competition, West Point Bridge Builder, Robotics Competition and National Engineering Design Competition).

Frequently Asked Questions

Can I apply for the School of Engineering as a sophomore?

A sophomore may apply to the School of Engineering, but due to the normal academic requirements at CVCA, it is not recommended that students begin until their junior year.

Why is there an annual fee for the School of Engineering?

The annual fee will be used for mentoring, internships, textbooks, materials, special guests, competitions, and an Engineering Notebook each year. Additionally, to provide quality instruction in Engineering, it is necessary to provide equipment and software specific to the field.

(It is our desire that all students have the opportunity to participate in the schools of distinction. If finances pose a problem, please speak to the School of Engineering Chair.)

Can I get college credit for this class?

The goal of the School of Engineering is to give students exposure to the field. Currently, there is not the ability to gain college credit, but we are investigating this through a local university.

What if I am already participating in the School of Engineering in 2009-10?

If you are a junior who is already in the School of Engineering, you will be grandfathered into the program, will not have to fill out an application, and your participation fee will be waived. Thank you for helping us develop a quality program in the beginning phases.