



THE PATHWAY FROM **EDUCATION TO VOCATION**

Becoming a Difference Maker in
ENGINEERING

Why Study **Engineering** at Azusa Pacific University?

Engineering is the art of transforming the knowledge from basic and applied sciences into things useful for the human society. Engineers design, build, test, operate, and maintain large, complex products and systems that serve a variety of useful purposes in almost all walks of human life. The 'largeness' of these engineering products and systems may be visibly evident, as in automobiles and airplanes, roads, bridges, and buildings, or national power grids and global communication networks; or their small sizes may belie the amazing complexity and ingenuity involved, as in microelectronic chips for smart phones, home appliances, GPS devices, or implanted medical electronics.

Engineering at APU is an innovative program that seeks to blend traditionally diversified disciplines of electrical, mechanical, and computer engineering into one integrated Engineering degree program. It draws strength from the successful track record of APU's long-standing Computer Science degree program and provides strong computer engineering and software skills for its Engineering graduates. Foundational and advanced coursework in electrical and mechanical engineering is anchored on these computer engineering and software skills, to make the curriculum serve current needs in the industry. Also, systems engineering concepts are introduced at the junior/senior levels and are heavily used in the final-year capstone design project. Systems Engineering represents a modern engineering skill set that is highly sought by the industry, and the APU Engineering graduates are well positioned to meet those needs. At present, two concentrations, Systems Engineering and Computer Engineering, are offered in the Engineering program at APU.

APU's Christian identity provides a moral basis for what is commonly practiced as engineering ethics. The engineer being the link between science and society, APU's Engineering curriculum strives to inculcate in the students, through classroom work as well as service learning experiences, a sense of moral responsibility for engineering designs that are safe, secure, environmentally friendly, and socially equitable.

APU's Engineering program is designed to make a difference in each of its students' lives. APU Engineers are trained to make a difference in society.

YOU MIGHT CONSIDER AN ENGINEERING MAJOR IF YOU:

- Are good at solving math and science problems
- Are able to “think outside the box,” coming up with creative solutions to challenging situations
- Enjoy participation as well as leadership roles in team tasks
- Have, or are willing to develop, excellent communication skills, both oral and written
- Have a passion for applying scientific principles to develop devices and systems that serve useful purposes
- Have a genuine concern for the betterment of the quality of human life and the protection of our environment through intelligent applications of sciences and mathematics
- Want a job in a profession that is well-paying, socially respected, and intellectually satisfying



SARAH DEPILLIS-LINDHEIM
Systems Engineering '19

“Engineering at APU offers a number of different concentrations, opening many career doors for us. After graduation, I would love to use my engineering degree to become an Imagineer at Disneyland. APU will have shaped my faith and my mind in a way that I hope to contribute to the happiness that is Disney.”



CHARLES VETTER
Systems Engineering '20

“I chose APU because I wanted to surround myself with faculty and students that cared about not only my success as a future engineer, but also my faith. My personal motto is, ‘Do good, and do it well.’ Upon graduation I plan to continue to do good in the world using the talents that God personally gave me.”

ENGINEERING MAJORS ARE PREPARED FOR:

- Lead roles in engineering teams engaged in design, development, testing, and maintenance of a variety of engineering products and systems
- Engineering jobs in the industry, defense services, regulatory and policy-making bodies, and the government
- Entrepreneurship and business start-up ventures
- Professional Engineer (PE) licensure and engineering consultancy practice
- Admission to graduate studies in engineering, the sciences, etc.
- Acceptance to other professional studies such as business, law, or medicine
- Unique and rewarding careers as problem-solvers in many fields outside engineering

GRADUATES IN ENGINEERING WORK AS:

- Systems engineers
- Computer engineers
- Electronics engineers
- Control engineers
- Data network engineers
- Testing and quality assurance engineers
- Security and reliability engineers
- Engineering managers

**Many of these careers may require additional training and/or graduate education*



ALTON BROWN
Systems Engineering '19

“I have always been fascinated with the engineering world and the opportunities that come with the learning. What I find most interesting about the APU engineering program is the practical experience that I gain along with my studies. After graduation I hope to work in biomedical or mechanical engineering fields.”

STEPS TO TAKE AS A MAJOR IN ENGINEERING

OPTIONS TO EXPLORE AROUND APU

BE CALLED.

EXPLORE. DEFINE. RESEARCH. LEARN.

- **TAKE INTRODUCTION TO ENGINEERING (ENGR 101)**
Explore vocational opportunities in engineering.
- **ATTEND ACM AND IEEE STUDENT CHAPTER MEETINGS**
Learn from current students, alumni, and employers about careers in the Engineering field.
- **LEARN HOW TO APPLY YOUR STRENGTHS WITHIN YOUR ACADEMICS, LIFE, AND CAREER**
Meet with a Career Consultant* or Strengths Mentor.
- **CONSIDER CAREER OPTIONS FOR YOUR MAJOR**
Meet with a Career Consultant* or your faculty advisor to explore and discuss requirements for your career options.

BE PREPARED.

IDENTIFY. STRENGTHEN. THEN. PRACTICE.

- **PREPARE JOB APPLICATION MATERIALS**
Write a resume, learn basic interview techniques, and do mock interviews.
- **GET HANDS-ON EXPERIENCE**
Take advantage of a number of engineering courses with strong lab components.
- **BUILD YOUR PROFESSIONAL PORTFOLIO**
Build an impressive dossier documenting your achievements and experiences in engineering internships, class projects, engineering society participation and leadership, service learning projects, field trips, summer jobs, volunteer activities, and much more.
- **SECURE AN INTERNSHIP**
Utilize your connections to find an internship in an area related to your interests and career aspirations. During the internship class (ENGR 491) you will be able to add relevant experiences to your resume, update your LinkedIn profile, and complete your online portfolio of work.
- **IF YOU'RE INTERESTED IN GRADUATE-LEVEL EDUCATION**
Meet with professors and the Center for Career and Calling to narrow your choices and apply. (See back page for more information)
- **RECEIVE FEEDBACK ON YOUR INTERVIEWING ABILITIES**
Complete a Mock Interview with a Career Consultant*
- **CREATE A RESUME TO APPLY FOR AN INTERNSHIP**
Meet with a Career Consultant* to review your resume and cover letter. Run them by your professors, too.
- **GROW YOUR SKILLS IN AN ON CAMPUS JOB OR STUDENT LEADERSHIP POSITION**
Talk to Student Employment or Student Life about the available opportunities.
- **VOLUNTEER LOCALLY AND GLOBALLY TO SHAPE YOUR PERSPECTIVE**
Talk to the Center for Student Action about how you can serve.
- **GAIN KNOWLEDGE ABOUT YOUR CAREER OPTIONS**
Do informational interviews or go to a career-related event to learn more about your career, degree, and experience requirements.

BE CONNECTED.

JOIN. NETWORK. BE ACTIVE.

- **JOIN PROFESSIONAL SOCIETIES**
ACM and IEEE Student Chapters
Honor Societies such as Tau Beta Pi (Engineering) and Eta Kappa Nu (Electrical and Computer Engineering).
- **JOIN A SERVICE LEARNING PROJECT**
The Namibia Initiative and the Nepal Project are examples of service projects that are available in the Engineering and Computer Science Department from time to time.
- **JOIN APU CONNECT**
Use the exclusive online networking portal to connect with other alumni.
- **TALK TO ALUMNI FROM YOUR MAJOR**
Join APUConnect.com and start reaching out. You can also email clasalumni@apu.edu* for help connecting with alumni.
- **GET ACTIVE ON LINKEDIN**
Meet with a Career Consultant* to review your profile and learn how to use LinkedIn.
- **ATTEND CAREER-RELATED EVENTS**
Keep an eye out for career events related to your major or that are happening around campus.
- **HAVE LETTERS OF RECOMMENDATION ON HAND**
Request them from professors and advisors at least a month before due.

* Visit apucareer.youcanbook.me/ to make an appointment with a Career Consultant

* Use subject line: Connect me with APU alumni

APPLYING TO GRADUATE SCHOOL

EXPLORE.



Learn more at
www.apu.edu/career/graduateschool

SELECT.

ONLINE RESOURCES TO HELP IDENTIFY THE BEST PROGRAM FOR YOU

[Peterson's Guide](#)
[GradSchools.com](#)
[The Princeton Review](#)
[National Assoc. of Graduate Professional Students](#)
[The Council of Graduate Schools](#)
[APU Pew Society Graduate Guide](#)

EXAMPLES OF SCHOOLS ATTENDED BY APU ECS GRADUATES:

[Texas A&M](#)
[University of Arizona](#)
[University of Illinois at Urbana-Champaign](#)
[University of Southern California](#)
[Cornell University](#)

APPLY.

- APPLICATION FORM AND FEES**
Follow instructions carefully and have one or more people check for errors.
- ENTRANCE ESSAY**
Provide a writing example that shows your personal objectives.
- TRANSCRIPT**
Ask APU to send it directly to the school you are applying to.
- LETTERS OF RECOMMENDATION**
Schools usually require three letters, so get them early.
- INTERVIEWS**
If your potential school requests an interview, treat it as a job interview.

FINDING YOUR CAREER

IDENTIFY.

- Search online job boards and professional associations in the Engineering field
- Regularly check-in with your organizations of interest and network with those who can inform you of opportunities
- Look on APU Career Network for possible opportunities

ENGINEERING ASSOCIATIONS:

[Institute of Electrical and Electronic Engineers](#)
[American Society for Mechanical Engineers](#)
[Association for Computing Machinery](#)
[American Society for Engineering Education](#)

PREPARE.

BRAINSTORM YOUR EXPERIENCE
What have you done? What is relevant?

▼
TAILOR YOUR RESUME
What does the job description say?

▼
WRITE GOOD BULLET POINTS
Do you focus on your accomplishments?

▼
FORMAT YOUR RESUME
Is it easy to read and follow?

▼
PRACTICE INTERVIEWING
Know yourself.
Know the position.
Know the organization.

RESEARCH OPTIONS

OCCUPATIONAL OUTLOOK HANDBOOK
www.bls.gov/ooh/

O*NET ONLINE
www.onetonline.org

PROFESSIONAL ASSOCIATION REFERENCE
www.weddles.com/associations

NETWORK.

WHO DO YOU KNOW?
WHO DO YOU NEED TO KNOW?



WHY NETWORK?

- Learn about different options in your field
- Research companies and positions of interest
- Find hidden opportunities that are not advertised
- Obtain referrals from those who have influence

EXAMPLES OF COMPANIES THAT HIRE ENGINEERING GRADUATES:

Jet Propulsion Laboratories
NASA
Boeing
Lockheed Martin
Northrop Grumman
The Aerospace Corporation
The RAND Corporation
Space X
Sandia Labs
Direct TV
Applied Physics Labs
Professional Systems Engineering, LLC