The Program

Cal Poly Pomona’s College of Engineering is a center of excellence and innovation, and is known for their “learn by doing” philosophy. As one of only seven polytechnic universities in the nation, Cal Poly Pomona produces workforce-ready engineers who go on to help make the world a better place and improve the quality of life in California and beyond.

Because of their “learn by doing” philosophy, most engineering students graduate with work experience in the metalcasting industry.

The College of Engineering is committed to a comprehensive approach to engineering education by providing exceptional undergraduate educational opportunities, promoting graduate programs, supporting research and scholarly activities, and cultivating a strong sense of community.

Students graduate with a BS in one of the following: Manufacturing Engineering, Industrial Engineering, Electromechanical Engineering Technology, or Mechanical Engineering.

The Curriculum

Following the “learn by doing” motto, hands-on experience is given a high priority. A lab component is included in each of the following classes: Foundry Engineering, Machining & CNC, Welding, Materials, CAD and GD&T, Quality Control, and Automation. Metalcasting is covered in-part or in-whole in four different classes.

The goal is to have all students make and machine their own castings to ensure they develop a complete understanding of the process. Their capstone casting class requires all students to conceive a project, then design, engineer, and produce patterns in order to produce and finish castings.

Students come to the lab planning to get their hands dirty – patternmaking, molding, shakeout, finishing – it’s a very hands-on program.

The Facilities

Cal Poly Pomona is the home of the largest and best equipped university foundry in the west. Students experience the thrill of producing castings of their own design. They are provided the opportunity to experience real world foundry process applications using industry standard equipment – including an induction furnace and a gas-fired unit.

The Professor

Victor Okhuysen received a BS in Materials Engineering from Cal State-San Luis Obispo and then attended Penn State to complete his Masters and PhD in Industrial Engineering. Following graduation, Victor took a position at CMI Tech Cast as an Engineering Manager. In 1998 he joined the faculty of Cal Poly-Pomona as a professor of Manufacturing Engineering. Victor served as the AFS Southern California Chapter Chair (2006/07) and as the Chair of the FEF Professors Committee. He was presented with the FEF/AFS Distinguished Professor Award in 2014.

Victor can be reached at vokhuysen@cpp.edu. The FEF Key School Contact for Pomona is Jason Gutierrez who can be reached at jason@smccast.com.
Processes and experiences that are available to the students are:

- **Molding:** Green Sand, Permanent Molds, Investment Casting, Lost Foam, and Chemically Bonded
- **Metals:** Aluminum, Copper Base, Iron, and Steel
- **Core Making, Pattern Making, 3D Printed Patterns, Casting Simulation**
- **Processes:** Heat Treating, Machining, Mechanical Testing, NDT, and Metrology

Pomona students participate in the Southern California AFS Casting Competition, work on senior projects at local casting facilities, enjoy foundry tours throughout the year, and lead workshops and demos in their foundry for Project Lead the Way and other groups as requested.

Over the past four years, 23 FEF registered students have taken a job in metalcasting or related industry, and 9 students have participated in internships and/or co-ops in metalcasting or related industry in the past two years.