Laboratory Tour & Information

**ENGINEERING IV (BLDG. 192)**

101—Bently Nevada, Solar Turbines Vibrations Lab
Students study how vibration affects the design of structures, mechanisms and rotating machinery.

102—Parker Hannifin Controls Laboratory
Control systems take random inputs and provide steady outputs, similar to a cruise control system in a car. Many experiments were designed and built by professors in this lab.

106—Graduate Student Office
Collaborative workspace for graduate students. Please don’t interrupt them, they are trying to graduate!

107—Computer Aided Design (CAD) Lab
Open 24/7 for students to access many different pieces of software as well as a space to work on class projects.

124—Critchfield Mechanical Lab
Home to Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC&R) concentration, this space is also used for intro labs.

126—Engine Laboratory
Engine performance, efficiency, and combustion are analyzed here. The engine test cell and dynamometer are used to study diesel, conventional, and cutting-edge engine designs.

127—Donald E. Bently Center for Engineering Innovation
Research projects are conducted out of this lab.

132—ASME Student Chapter Office
In addition to the office, this room houses two 3D printers for student use.

203—Thermal Science Laboratory
Students explore heat transfer, thermodynamics, energy conversion, solar power, and various measurement techniques here.

**BONDERSON PROJECTS CENTER (BLDG. 197)**

107—“The High Bay” Project Assembly Area
Many student projects come together in this space, you may even see some in progress—Learn by Doing!

114—Mustang ’60 Machine Shop
This shop is used by all engineering students in order to build their projects. Student technicians are there to provide a watchful eye as well as answer any questions the students have.
Mission Statement
To impart knowledge in the art and science of mechanical engineering through a comprehensive curriculum true to the traditional Cal Poly learn-by-doing philosophy that produces mechanical engineers of high ethics and skill, fully prepared for entry into industry, government, graduate school, and private enterprise.

From the Faculty
We see our mission as to educate the best engineers for California, the country, and the world. Our students have a strong foundation in theory – many of them go on to graduate schools — but the education we provide our students makes them sound, practicing engineers from the moment they graduate. In fact, our industrial partners tell us that one of the reasons they seek out our graduates because, in their words, “they hit the ground running.” How do we do it?

We offer one of the most practical, hands-on programs available. Our curriculum is laboratory-intensive: some 20 courses have required laboratories! We encourage our students to take internships and/or cooperative education opportunities to get real industry experience. And in our year-long, capstone Senior Project course, students design, build, and test systems they develop for industry sponsors. And let’s not forget the facilities available to students, like 24-hour labs and student machine shops!

Above all, we have the most dedicated, student-focused faculty anywhere. Most of our faculty have spent years in industry, or have other significant industrial experience (what better way to learn engineering than to learn it from engineers?). And yet, our first love is to be educators. Labs and lectures are taught by our faculty; graduate TA assistants include product design, mechanical design, testing, engineering management, engineering sales, design of manufacturing systems, and development of maintenance procedures. Mechanical Engineering graduates also often enhance their careers through graduate study in engineering, and some students also study engineering to build a scientific and technical foundation as a prelude to enrollment in medical, law, and business schools.

Concentrations
General—students can choose from technical elective courses such as turbomachinery, robotics, mechatronics, composite materials, rotor dynamics, advanced mechanics, solar systems, internal combustion engines, heat and mass transfer, and courses emphasizing the petroleum, air conditioning, ventilating, and refrigeration industries.

Mechatronics—“intelligent” products, automation, robotics, hybrid vehicles, alternate energy

HVAC&R—heating, ventilation, air-conditioning, and refrigeration, with a focus on the design of mechanical systems for commercial and industrial buildings.

Manufacturing—blends design and manufacturing for modern product development companies

Associated Clubs
There are seven organized student clubs associated with the Mechanical Engineering Department. These are student chapters of the American Society of Mechanical Engineers, Society of Petroleum Engineers, Society of Automotive Engineers, American Society of Heating, Refrigerating and Air Conditioning Engineers, Alternative Energy Club, Robotics, and the Phi Tau Sigma honorary society. All of these clubs offer students active programs in professional and leadership activities. Students are also involved in a variety of other clubs on campus.

Career Paths
Mechanical Engineering graduates obtain employment primarily with manufacturers, energy companies, consultants, and government agencies. Types of work performed by graduates include product design, mechanical design, testing, engineering management, engineering sales, design of manufacturing systems, and development of maintenance procedures. Mechanical Engineering graduates also often enhance their careers through graduate study in engineering, and some students also study engineering to build a scientific and technical foundation as a prelude to enrollment in medical, law, and business schools.