

## DEPARTMENT OF ENGINEERING

### QUICK FACTS 2007

- **Four engineering programs currently offered:**
  - Civil engineering (B.S.)
  - Computer engineering (B.S.)
  - Electrical engineering (B.S.)
  - Mechanical engineering (B.S.)
- **Graduate program**
  - Masters of engineering with tracks in computer, electrical, mechanical, and systems engineering
- **Low student/faculty ratio**
  - Average class size in first-year engineering classes: 23
  - Average class size in other engineering classes: 15
  - Average number of graduates per year (last 5 years): 24
- **Sixteen full-time faculty all holding doctoral degrees in engineering.** Currently recruiting a new endowed chair faculty member in the area of wireless communications
- **Faculty active in engineering scholarship.** In 2006 IPFW engineering faculty published forty three papers in conference proceedings and journals, including fourteen papers on engineering education.
- **Active student chapters of national engineering organizations:**
  - American Society of Civil Engineers (ASCE)
  - American Society of Mechanical Engineers (ASME)
  - Institute of Electrical and Electronics Engineers (IEEE)
  - National Society of Black Engineers (NSBE)
  - Society of Automotive Engineers (SAE)
  - Society of Women Engineers (SWE)
- **Accreditation by the Engineering Accreditation Commission (EAC) of ABET**

The computer, electrical and mechanical programs are accredited. The civil engineering program has been recently implemented (2006). The projected date for having the civil engineering program reviewed by ABET is fall of 2009. ABET accreditation requires having at least one student complete a degree program.
- **A sample of companies employing recent graduates:**

DePuy, General Electric, International Truck and Engine Corp., ITT Industries, Martin Riley Mock, Inc., Raytheon, UnderSea Sensor Systems, WaterFurnace International, and Zimmer
- **An innovative student-centered curriculum with:**
  - an emphasis on design content and hands-on laboratory experiences
  - a common first-year program for all engineering majors
  - classes that rotate between day and evening times to accommodate both traditional students and working adults
  - a strong foundation in math and sciences; all the computer and electrical engineering majors graduate with a minor in mathematics
- **Professional exam:** For the past six years more than 90% of the IPFW engineering seniors taking the Fundamentals of Engineering exam have passed (the first step in professional engineering registration).
- **Co-op program:** for 2006/2007 eleven students participated in this program alternating semesters of study with semesters working in an industrial internship
- **Senior design projects:** All seniors complete a one year small-group design projects. These projects are advised by a faculty member and many are sponsored by local industry. A sample of 2005-2006 projects:
  - Automated Cut Guide for Orthopedic Surgery (Multidisciplinary, Sponsor: Zimmer, Inc.)
  - Interactive Sensor Package Unit (Multidisciplinary, Sponsor: Practical Robots Innovations, LLC)
  - RF Wireless Interface (Electrical and Computer engineering, Sponsor: Attero Tech, LLC)
  - SAE Mini Baja® Frame and Suspension Design (Mechanical engineering, Sponsor: IPFW Society of Automotive Engineers)
  - Software Defined Radio System (Electrical engineering, Sponsor: Raytheon)
- **Participation in the SAE Mini Baja® competition:** engineering students design and build an off-road vehicle.