



What can I do with a major in **COMPUTER ENGINEERING** from Valparaiso University?

Description of major:

The purpose of the Computer Engineering Program is to educate qualified and motivated individuals in an exclusively undergraduate environment who, upon graduation, are prepared for lifelong learning and the pursuit of professional excellence in the field of computer engineering, and who base their professional and personal decisions on the ethical, moral and social values which are central to Valparaiso University. Computer engineers specialize in the design, manufacture, testing, installation, operation and application of computers, computer systems and their components. They invent new and efficient hardware and software to solve problems.

Relevant skills for a COMPUTER ENGINEERING major:

- ◆ Analyze needs
- ◆ Analyze technical information
- ◆ Analyze, organize & interpret scientific data
- ◆ Calculate
- ◆ Communicate verbally and in writing
- ◆ Concentrate for long periods of time
- ◆ Conduct & clearly communicate scientific research
- ◆ Define/clarify problems
- ◆ Diagnose
- ◆ Have aptitude for accurate details, spatial perception and abstract reasoning
- ◆ Have form perception
- ◆ Have proficiency in mathematics and physical sciences
- ◆ Make keen observations and sound judgments
- ◆ Meet deadlines
- ◆ Operate, program, & use the computer
- ◆ Organize
- ◆ Perform precise work
- ◆ Read, interpret, and follow directions, schematic drawings, diagrams, & blueprints
- ◆ Solve problems
- ◆ Supervise
- ◆ Test equipment
- ◆ Trouble shoot
- ◆ Use instruments and engineering tools
- ◆ Visualize objects from pictures or descriptions
- ◆ Work in teams
- ◆ Work well with others
- ◆ and others!

Sample work activities for Graduates in COMPUTER ENGINEERING (some may require an advanced degree)

- Acoustical Engineer
- Aeronautical Engineer
- Applications Programmer
- Artificial Intelligence Programmer
- Biomedical Engineer
- Circuit Engineer
- Communications Engineer
- Computer Game Designer
- Computer Engineer
- Computer Security Specialist
- Computer Service Representative
- Consulting Engineer
- Control Engineer
- Customer Service Engineer
- Database Administrator
- District Resource Manager
- Electrical Engineer
- Electronics Engineer
- Electrical Engineering Instructor/Professor
- Environmental Engineer
- Field Service Engineer
- Fire Protection Engineer
- Hardware Engineer
- Illuminating Engineer
- LAN/WAN Administrator
- Mainframe Programmer
- Measurement Engineer
- Microcomputer Programmer
- Multimedia Designer
- Network Administrator
- Nuclear Engineer
- Operations Supervisor
- Physicist
- Plant Manager
- Production Control Specialist
- Project Manager
- Quality Assurance Specialist
- Radio & Electrical Inspector

**Sample work activities for Graduates in COMPUTER ENGINEERING cont.
(some may require an advanced degree)**

- Radio & Electrical Inspector
- Radio Engineer
- Robotics Engineer
- Safety Engineer
- Sales Engineer
- Software Engineer
- Systems Administrator
- Systems Analyst
- Technical Services Manager
- Technical Writer
- Telecommunications Analyst
- Test Engineer
- Transmissions Engineer
- User Interface Designer
- Virtual Reality Designer
- Webmaster
- and others!

Potential hiring institutions for COMPUTER ENGINEERING majors:

- ◆ Aerospace
- ◆ Banks
- ◆ Computer hardware Manufacturers
- ◆ Computer software companies
- ◆ Computer firms
- ◆ Computer game developers
- ◆ Consulting engineering firms
- ◆ Educational institutions
- ◆ Government agencies
- ◆ Industrial firms
- ◆ Internet service providers
- ◆ Manufacturing firms
- ◆ Office equipment manufacturers
- ◆ Private laboratories
- ◆ Retailers – computer or electronics
- ◆ Telecommunications firms
- ◆ Utility companies
- ◆ Video game developers
- ◆ Web page management companies
- ◆ and others!

Area of further education for COMPUTER ENGINEERING majors:

- Acoustics
- Aerospace/Aeronautical Engineering
- Applied Physics
- Applied Science & Technology
- Artificial Intelligence/Robotics
- Automotive Engineering
- Aviation
- Biochemical Engineering
- Biomedical Engineering
- Biotechnology
- Business Administration
- Computer Engineering
- Computer Science
- Education
- Electrical Engineering
- Energy & Power Engineering
- Engineering
- Engineering Design
- Engineering Management & Policy
- Financial Engineering
- Human-Computer Interaction
- Industrial/Management Engineering
- Information Science
- Law
- Management of Technology
- Mathematical Physics
- Medical Informatics
- Nuclear Engineering
- Operations Research
- Optical Sciences
- Patent Law
- Physics
- Plasma Physics
- Safety Engineering
- Software Engineering
- Solid State Physics
- Systems Engineering
- Systems Science
- Technology & Public Policy
- Telecommunications
- Telecommunications
- Theoretical Physics
- and others!

Sources of additional information for COMPUTER ENGINEERING majors:

- ◆ VU Department of Electrical & Computer Engineering: <http://www.valpo.edu/engineering/electrical/index.php>
- ◆ Occupational Outlook Handbook: the US Bureau of Labor Statistics compiles information about various occupations, including the nature of the work, the job outlook, the earnings, and other relevant information. <http://stats.bls.gov/oco/home.htm>
- ◆ American Council of Engineering Companies: Has a member directory to look up potential employers. <http://www.acec.org>
- ◆ Association for Computer Machinery: the world's first educational and scientific computing society. Site includes Career Opportunities. <http://info.acm.org/>
- ◆ Computer Society, Institute of Electrical and Electronics Engineers: world's leading organization of computer professionals. <http://computer.org>
- ◆ Computerwork.com: a job search center for technical professionals offering permanent, contract, and consulting jobs nationwide. <http://computerwork.com/>
- ◆ Consulting Engineers Council of Illinois: a not-for-profit statewide association of 220 consulting engineering and land surveying firms engaged in the private practice of engineering. Member firms engage in the disciplines of civil, electrical, geotechnical, mechanical, structural, architectural and acoustical engineering, as well as surveying. Information about member firms is all available online. <http://www.cec-il.org>
- ◆ Discover Engineering Online: Promotes the engineering profession as a career choice among young people and to recognize the accomplishments of the world's engineers. <http://www.discoverengineering.org>
- ◆ ElectricalEngineer.com: corporate recruiting and job search site for electrical engineers and related professions. <http://www.electricalengineer.com/>
- ◆ EngineerJobs.Com: job listings for engineers and technical professionals. <http://www.engineerjobs.com/>
- ◆ Engineering Central: engineering job openings - including hard-to-find entry-level engineering job openings. <http://www.engcen.com>
- ◆ Engineering News-Record The Construction Weekly, posting the jobs online and allowing access to terrific information. Search the jobs by job title, keyword, location, or view the ads from specific issues of ENR. Jobs out for bid are also listed at this site. <http://www.enr.com/>
- ◆ Institute for the Certification of Computer Professionals: dedicated to the establishment of high professional standards for the computer industry. Actively promote these standards by offering the only broadly applicable and internationally recognized certification program in the profession. <http://www.iccp.org/>
- ◆ Institute of Electrical and Electronics Engineers (IEEE): an organization dedicated that is: 1) a resource to help individuals establish a solid, lasting career in Electronic, Electrical & Computer Engineering; 2) an advocate for all engineers to create a stable and productive work environment; and 3) a voice to build a strong and competitive US market. Site includes an extensive Career component and . <http://www.ieeeusa.org/>
- ◆ National Society for Professional Engineers: the only engineering society that represents individual engineering professionals and licensed engineers (PEs) across all disciplines. Site includes a Student section. <http://www.nspe.org/>
- ◆ National Society of Black Engineers: a student-managed organization with more than 250 chapters on college campuses and 50 alumni chapters nationwide. Includes Jobs. <http://www.nsbe.org/>
- ◆ Professional & Technical Consultants Association: a professional association of independent consultants and principals who work in small consulting firms in a variety of technical and non-technical fields. Site includes a Directory of Consultants. <http://www.patca.org/>
- ◆ Society of Hispanic Professional Engineers: social-technical organization whose primary function is to enhance and achieve the potential of Hispanics in engineering, math, and science. <http://www.shpe.org/>
- ◆ Society of Women Engineers: promotes the advancement of women as engineering professionals. Includes Career Guidance and a Jobs section. <http://www.swe.org/>

VU Career Center Resource Library Materials:

- *Book of U.S. Government Jobs: Where They Are, What's Available, and How to Get One*
- *Career Opportunities in Computers and Cyber-space*
- *Careers for Number Crunchers & Other Quantitative Types*
- *Essays that Worked for Law Schools*
- *GMAT 2003*
- *Graduate Admissions Essays: Write Your Way into the Graduate School of Your Choice*
- *Graduate Programs in Engineering and Computer Science*
- *Graduate Programs in Physical Sciences*
- *Graduate Schools in the U.S*
- *Great Jobs for Engineering Majors*

- *Guide to America's Federal Jobs*
- *Is there An Engineer Inside You?*
- *Job Surfing: The Sciences – Research & Medicine*
- *LSAT 2006*
- *Opportunities in Aerospace Careers*
- *Opportunities in Computer Careers*
- *Opportunities in Engineering Careers*
- *Opportunities in Government Careers*
- *Opportunities in Law Careers*
- *Opportunities in Technical Sales Careers*
- *Peterson's Game Plan for Getting into Business School*
- *Peterson's Game Plan for Getting into Graduate School*
- *Peterson's Game Plan for Getting into Law*

- *School*
- *Peterson's Graduate & Professional Programs in Business, Education, Health, Information Studies, Law & Social Work*
- *Peterson's Graduate & Professional Programs in Engineering & Applied Sciences*
- *Peterson's Graduate & Professional Programs, An Overview*
- *PhD Factory: Training and Employment of Science and Engineering Doctorates in the United States*
- *Resumes for Computer Careers*
- *Resumes for Engineering Careers*
- *Resumes for High-Tech Careers*
- *Resumes for Scientific and Technical Careers and others!*

For more information about majoring in COMPUTER ENGINEERING, contact:

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For information about Cooperative Education or Internships in the Department of Electrical Engineering, contact the Department Chair.

For more questions about your career decisions, please make an appointment with a VU Career Counselor by calling 464-5005, stopping by the Career Center in Alumni Hall or e-mailing us at Career.Center@valpo.edu
