The Bachelor of Science degree in Computer Engineering is offered by the University of the Pacific through the Department of Electrical and Computer Engineering (ECPE). Computer engineering is a broad field which encompasses all aspects of computers, including the design and application of both hardware and software. Career opportunities in this field are diverse and are found in manufacturing, transportation, communications, research, education and management. All CpE students must complete a team-oriented, multidisciplinary Senior Design Project, which provides an opportunity to apply engineering fundamentals and design methods to the solution of a real problem. Graduates of this program have the knowledge essential for entry into this dynamic field of engineering or to continue their education through graduate studies.

CpE laboratories include state-of-the-art workstations, as well as standard test and measurement equipment. Students have easy access to all computer and laboratory equipment, and can conduct approved independent research.

**COMPUTER ENGINEERING PROGRAM OBJECTIVES**

Graduates of the BScpE degree program will be prepared to build and sustain successful careers in computer engineering, and actively engage in life-long learning.

**COOPERATIVE EDUCATION PROGRAM**

Co-op coordinators work with students to arrange relevant full-time, paid jobs with engineering employers. 32 units of co-op work experience are required to graduate, although students have the option of pursuing 50 units. (Non-U.S. citizens are exempt from the co-op requirements.) Students who take 32 units of co-op work for a Fall or Spring semester plus one Summer semester. Students who take 50 units of co-op can work for different companies for a total of one year of work experience before they graduate.

**GENERAL EDUCATION**

Students who enter the Computer Engineering Program as freshmen are required to take Pacific Seminars 1 and 2. Students also take four General Education (G.E.) courses. Two G.E. courses are required from Category I in different areas, and one course must be from Category II-A or II-C. All students take Pacific Seminar 3 and ENGR 30, which is a required G.E. II-B courses. Transfer students should discuss G.E. requirements with their advisor.

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**For more information contact:**

Dr. Jennifer Ross, Associate Professor and Chair  
School of Engineering and Computer Science, University of the Pacific, Stockton, CA 95211  
Email: jross@pacific.edu; Phone (209) 946-3053. Offices are located in Anderson Hall.

The Office of Admissions can provide applications and general information about the University. Phone (209) 946-2211 or [www.pacific.edu/admission](http://www.pacific.edu/admission)

Transfer students are welcome to inquire about entering the program at any level.
### Bachelor of Science in Computer Engineering – Program Curriculum

<table>
<thead>
<tr>
<th>Mathematics and Basic Science</th>
<th>General Education</th>
<th>Professional Practice (Co-op)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 053 [5] Physics I</td>
<td>Gen. Ed. [3-4] (II-A or II-C)</td>
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<tr>
<td>Science elective [3-5] (See list below)</td>
<td>*Category I Gen. Eds must be from different areas.</td>
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<td><strong>Computer Engineering Core</strong></td>
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<tr>
<td>ECPE 005 [1] Intro to Elec &amp; Comp Engr</td>
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<td>ECPE 195 [2] Senior Project 1</td>
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<tr>
<td>ECPE 041L [1] Circuits Lab</td>
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<td>ENGR 010 [1] Dean’s Seminar</td>
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<tr>
<td>ECPE 131 [3] Electronics</td>
<td></td>
<td>Electives (See list below)</td>
</tr>
<tr>
<td>ECPE 194 [0] Core Assessment Exam</td>
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</tbody>
</table>

(Electives must be selected from the following list and include one from each category. The remaining elective must be taken from COMP or ECPE Electives areas, with a total of three ECPE and COMP courses required. Courses should be selected to form a cohesive study plan.)

**COMP Elective (at least one)**
- COMP 129 Software Engineering [4]
- COMP 135 Human-Computer Interface [3]
- COMP 137 Parallel Computing [3]
- COMP 141 Programming Languages [4]
- COMP 147 Computing Theory [4]
- COMP 155 Computer Simulation [4]
- COMP 159 Computer Game Technologies [4]
- COMP 163 Database Management Sys. [4]
- COMP 175 System Admin. and Security [3]
- COMP 191 Independent Study [3-4]*
- COMP 197 Undergraduate Research [3-4]*

**ECPE Electives (at least one)**
- ECPE 132 Advanced Electronics [4]
- ECPE 135 Power Electronics [4]
- ECPE 136 VLSI Design [4]
- ECPE 151 Artificial Intelligence [3]
- ECPE 155 Autonomous Robotics [4]
- ECPE 163 Energy Conversion [4]
- ECPE 177 Computer Networking [4]
- ECPE 191 Independent Study [3-4]*
- ECPE 197 Undergraduate Research [3-4]*
- ECPE 225 Digital Signal Processing w/apps
- ECPE 233 Quantum and Nano Devices [3]
- ECPE 263 Recent Topics in Renew. Energy [3]
- BIOL 041 Intro. to Biology [4]
- BUSI 101 Intro. to Business [4]
- BUSI 106 International Business [4]
- ENG 120 Intro. to English [3]
- ENG 122 Thermodynamics I [3]
- GEOS 051 Dynamic Planet [4]
- GEOS 053 Earth & Life Through Time [4]
- GEOS 057 Earth System Science [4]
- PHYS 057 Modern Physics [4]
- PHYS 101 Electricity & Magnetism [4]
- PHYS 105 Optics [4]
- PHYS 127 Computational Physics [4]
- PHYS 137 Mathematical Physics [4]
- PHYS 141 Cosmology [4]
- PHYS 151 Advanced Physics Lab [4]
- PHYS 161 Thermal Physics [4]
- PHYS 191 Independent Study [3-4]*
- PHYS 197 Undergraduate Research [3-4]*

**Science Elective (one)**
- CHEM 025 General Chemistry [5]
- CHEM 027 General Chemistry [5]
- BENG 053 Bio with apps for Engrs I [4]
- BENG 063 Bio with apps for Engrs II [4]
- BIOL 051 Principles of Biology [4]
- BIOL 061 Principles of Biology [4]

* Independent Study, Special Topics, and Undergraduate Research can be taken 1-4 units. A total minimum of 3 or maximum of 4 units can count as an elective.

Catalog year: 2013-2014