BSCoE in Computer Engineering

Degree Program Description

Major Program Requirements

The computer engineering degree offers a balanced approach to both hardware and software, as well as other areas of engineering. Focused areas of work in additional hardware or software, communications, discrete and integrated electronics, and robotics are offered by the department. (Focus areas are not listed on transcripts or diplomas.)

Students must complete all university requirements, including general education (http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements), and Department Level Requirements (http://catalog.missouri.edu/undergraduategraduate/collegeofengineering/computerengineering/#undergraduatetext), in addition to the degree requirements below.

Major core requirements

Constitutional Elective
Select one of the following: 3

HIST 1100 Survey of American History to 1865
HIST 1200 Survey of American History Since 1865
HIST 1400 American History
HIST 2210 Twentieth Century America
HIST 2440 American History
HIST 3310 Politics of the United States
HIST 3320 International Relations
HIST 4000 Age of Jefferson
HIST 4220 U.S. Society Between the Wars 1918-1945
HIST 4230 Our Times: United States Since 1945
POLS SC 1100 American Government

Humanities/Fine Arts courses 9
Social Science/Behavioral Science courses 6

Other major core requirement courses:

MATH 1500 Analytic Geometry and Calculus I 5
MATH 1700 Calculus II 5
MATH 2300 Calculus III 3
MATH 2320 Discrete Mathematical Structures 3
MATH 4100 Differential Equations 3
STAT 4710 Introduction to Mathematical Statistics 3
PHYSICS 2750 University Physics I 5
PHYSICS 2760 University Physics II 5
CHEM 1320 College Chemistry I 4
ENGLISH 1000 Exposition and Argumentation 3
ENGINR 1200 Statics and Elementary Strength of Materials 3
or ENGINR 2300 Engineering Thermodynamics
or IMSE 2710 Engineering Economic Analysis
ENGINR 1000 Introduction to Engineering 1
CMP SC 1050 Algorithm Design and Programming I 4
CMP SC 2050 Algorithm Design and Programming II 4
ECE 2100 Circuit Theory I 4
ECE 2210 Introduction to Logic Systems 3
ECE 3280 Computer Organization and Assembly Language 3
ECE 3810 Circuit Theory II 4
ECE 3830 Signals and Linear Systems 3
ECE 3410 Electronic Circuits and Signals I 4
ECE 3110 Electrical and Computer Engineering Projects 3
ECE 3220 Software Design in C and C++ 3
ECE 4220 Real Time Embedded Computing 3
ECE 4250 VHDL and Programmable Logic Devices 4
ECE 4270 Computer Organization 4
ECE 4970 Senior Capstone Design 3

Electives
3000+ ECE or CMP_SC Elective 9
ECE 4000+ Technical Elective 6
Any Elective 1

Semester Plan

Below is a sample plan of study, semester by semester. A student's actual plan may vary based on course choices where options are available.

First Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit</th>
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<tr>
<td>Fall</td>
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<td>MATH 1500</td>
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<td></td>
<td>HIST 1100</td>
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<td>ENGLSH 1000</td>
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<td>PHYSICS 2750</td>
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<tr>
<td>Spring</td>
<td>ECE 2100</td>
<td>4</td>
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<td>CMP_SC 2050</td>
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<td>PHYSICS 2760</td>
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Double Major
Electrical Engineering and Computer Engineering

Many students in the EECS department combine the BS in Electrical Engineering with the BS in Computer Engineering in a special 138-credit program. These students receive both the BS EE and BS CoE degrees.

Major Program Requirements

<table>
<thead>
<tr>
<th>Constitutional Elective</th>
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<tbody>
<tr>
<td>HIST 1100</td>
<td>Survey of American History to 1865</td>
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<td>HIST 1200</td>
<td>Survey of American History Since 1865</td>
</tr>
<tr>
<td>HIST 1400</td>
<td>American History</td>
</tr>
<tr>
<td>HIST 2210</td>
<td>Twentieth Century America</td>
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<td>HIST 2440</td>
<td>History of Missouri</td>
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<tr>
<td>HIST 4000</td>
<td>Age of Jefferson</td>
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<tr>
<td>HIST 4220</td>
<td>U.S. Society Between the Wars 1918-1945</td>
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<td>HIST 4230</td>
<td>Our Times: United States Since 1945</td>
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<td>HIST 1100</td>
<td>American Government</td>
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<td>POL_SC 1100</td>
<td>State Government</td>
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<tr>
<td>Humanities/Fine Arts courses</td>
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<td>Social Science/Behavioral Science courses</td>
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Select two of the following:

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Other major core requirement courses:

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<td>MATH 4100</td>
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<td>STAT 4710</td>
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<td>PHYSCS 2750</td>
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<tr>
<td>ECONOM 1014</td>
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<td>or ECONOM 1015</td>
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<tr>
<td>or ECONOM 1024</td>
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<td>ECE 4970</td>
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Electives

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<tr>
<td>3000+ ECE or CMP_SC Elective</td>
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<tr>
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<tr>
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<td>Any Elective</td>
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Below is a sample plan of study, semester by semester. A student's actual plan may vary based on course choices where options are available.

**First Year**

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**Second Year**

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<td>PHYSCS 2750</td>
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**Third Year**

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**Fourth Year**

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<td>ECE 4270</td>
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<td>ENGINR 1200, 2300, or IMSE 2710</td>
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<td>Social/Behavioral Science Elective</td>
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<td>Humanities/Fine Arts Elective</td>
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| 16 | 15 |

**Fifth Year**

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