BS in ELECTRICAL ENGINEERING (393550) MAP Sheet
Department of Electrical and Computer Engineering
For students entering the degree program during the 2012–2013 curricular year.

<table>
<thead>
<tr>
<th>UNIVERSITY CORE AND GRADUATION REQUIREMENTS</th>
<th>PROGRAM REQUIREMENTS (94-95 total hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNIVERSITY CORE REQUIREMENTS</strong></td>
<td><strong>COMPLETE AT LEAST 20 HOURS FROM THE FOLLOWING ADVANCED TECHNICAL PROGRAM AND TECHNICAL ELECTIVES:</strong></td>
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<tr>
<td>Requirements</td>
<td>#Classes</td>
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<tr>
<td><strong>Doctrinal Foundation</strong></td>
<td>2</td>
</tr>
<tr>
<td>Book of Mormon</td>
<td>1</td>
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<tr>
<td>New Testament</td>
<td>1</td>
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<tr>
<td>Doctrine and Covenants</td>
<td></td>
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<tr>
<td><strong>The Individual and Society</strong></td>
<td></td>
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<tr>
<td>Citizenship</td>
<td>1–2</td>
</tr>
<tr>
<td>American Heritage</td>
<td>1</td>
</tr>
<tr>
<td><strong>Skills</strong></td>
<td></td>
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<tr>
<td>Effective Communication</td>
<td></td>
</tr>
<tr>
<td>First-Year Writing</td>
<td>1</td>
</tr>
<tr>
<td>Adv Written &amp; Oral Communication</td>
<td></td>
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<tr>
<td><strong>Quantitative Reasoning</strong></td>
<td>0–1</td>
</tr>
<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Arts, Letters, and Sciences</strong></td>
<td></td>
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<tr>
<td>Civilization 1 and 2</td>
<td>2</td>
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<tr>
<td>Arts</td>
<td>1</td>
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<tr>
<td><strong>Letters</strong></td>
<td>1</td>
</tr>
<tr>
<td>Scientific Principles &amp; Reasoning</td>
<td></td>
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<tr>
<td>Biological Science</td>
<td>1–2</td>
</tr>
<tr>
<td>Physical Science</td>
<td>2</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
</tr>
<tr>
<td><strong>Core Enrichment: Electives</strong></td>
<td></td>
</tr>
<tr>
<td>Religion Electives</td>
<td>3–4</td>
</tr>
<tr>
<td>Open Electives</td>
<td>Variable</td>
</tr>
<tr>
<td><strong>GRADUATION REQUIREMENTS:</strong></td>
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<tr>
<td>Minimum residence hours required</td>
<td></td>
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<tr>
<td>Minimum hours needed to graduate</td>
<td></td>
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<tr>
<td>&quot;REDUCTION OF TOTAL CREDITS IS RECOMMENDED&quot;</td>
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<tr>
<td>&quot;by choosing a Civilization 2 course that also double counts for the Arts requirement (if a separate Letters course is taken) or the Letters requirement (if a separate Arts course is taken) --- see the University Core list for specifics.&quot;</td>
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</tr>
<tr>
<td>&quot;FOR GE QUESTIONS CONTACT THE ADVISEMENT CENTER&quot;</td>
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</tbody>
</table>

*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (16–17.0 hours overlap)

‡REDUCTION OF TOTAL CREDITS IS RECOMMENDED by choosing a Civilization 2 course that also double counts for the Arts requirement (if a separate Letters course is taken) or the Letters requirement (if a separate Arts course is taken) --- see the University Core list for specifics.

§FOR PROGRAM QUESTIONS SEE YOUR DEPARTMENT ADVISOR

*CONTACT THE ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT FOR CURRENT INFORMATION ABOUT ADDED AND/OR DELETED COURSES, AS WELL AS INFORMATION ABOUT WHEN COURSES ARE OFFERED.
### Suggested Sequence of Courses:

#### FRESHMAN YEAR

**1st Semester**
- EC En 191 (FW) 0.5
- C S 142 (FWSpSu) 3.0
- Chem 105 (FWSpSu) 4.0
- 1st Year Writing or A Htg 3.0
- Math 112 (FWSpSu) 4.0
- Rel A 121 (FWSpSu) 2.0

**Total Hours:** 16.5

**2nd Semester**
- EC En 124 (FWSp) 3.0
- Math 113 (FWSpSu) 4.0
- Phsos 121 (FWSp) 3.0
- First-Year Writing or A Htg 3.0
- Rel A 122 (FWSpSu) 2.0

**Total Hours:** 15.0

#### SOPHOMORE YEAR

**3rd Semester**
- C S 235 (FWSpSu) 3.0
- EC En 224 (FW) 3.0
- Math 313 (FWSpSu) 3.0
- Phsos 220 (FWSpSu) 3.0
- Eng T 231 3.0
- Rel A 211 or 212 (FWSpSu) 2.0

**Total Hours:** 17.0

**4th Semester**
- EC En 212 (FWSp) 5.0
- EC En 370 (FW) 3.0
- Math 334 (FWSpSu) 3.0
- University core requirement 3.0
- Religion elective 2.0

**Total Hours:** 16.0

#### JUNIOR YEAR

**5th Semester**
- EC En 313 (FWSp) 5.0
- EC En 391 (F) 0.5
- Engl 312 or 316 3.0
- Math 314 (FWSpSu) 3.0
- Phsos 281 (F) 3.0
- Rel A 324 or 325 2.0

**Total Hours:** 16.5

**6th Semester**
- EC En 360 (FW) 3.0
- EC En 362 (FWSp) 2.0
- EC En 380 (FWSp) 4.0
- University core requirement 3.0
- Religion elective 2.0

**Total Hours:** 17.0

**7th Semester**
- EC En 490 (FW) 3.0
- Technical elective 4.0
- Technical elective 4.0
- University core requirement 3.0

**Total Hours:** 15.0

**8th Semester**
- EC En 490 (FW) 4.0
- Technical elective 4.0
- Technical elective 4.0
- University core requirement 3.0
- Religion elective 2.0

**Total Hours:** 17.0

*Actual course sequences should be adapted to individual needs. For example, students with AP credits in Math, Physics, or Computer Science will already have credit for some initial courses. Many students find it beneficial to attend one or more spring or summer terms. On average, students take about nine semesters to graduate in this program.

### THE DISCIPLINE:

Electrical and computer engineers study phenomena, devices, and systems for information processing, communication, and systems control. These studies, grounded primarily in physics and mathematics, have enabled engineers to develop the innovative new technologies for information acquisition, processing, storage, and communication that have made possible our contemporary Age of Information.

Examples of systems developed by electrical and computer engineers include radio, television, radar, satellite communication systems, cellular telephones, laptop computers, fiber-optic communications devices, global and local computer networks, robotic systems, control systems, fax machines, medical image processing, computer moderns, lasers, pagers, computer vision, programmable calculators, VLSI chips, computer-aided design tools, and medical instruments.

Although it is the goal of engineering to produce useful objects, electrical and computer engineers typically play a limited role in construction, assembly, or mass production. Instead, they focus on design, analysis, and the development of the underlying theory and knowledge applied in the design process.

### CO-OP and INTERNSHIP EXPERIENCES:

Optional co-op and internship experiences with engineering firms throughout the USA are available. These experiences may extend over one semester plus the spring/summer terms, for a total of eight months.

### CAREERS:

Electrical and computer engineers are among the most actively recruited students graduating from a four-year program. Baccalaureate engineers typically start their careers as members of project teams with one or more of the following responsibilities: designing digital, analog, or opto-electronic circuits; creating or testing application-specific software; testing components or systems; or providing technical support for sales. Later on, many engineers find themselves pursuing managerial careers, starting their own companies, or even managing entrepreneurial funds. Top graduates are also well received by medical schools, law schools, and professional and management programs.

The BS curriculum for both the electrical engineering and computer engineering degrees is accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET).

### PROFESSIONAL AND HONOR SOCIETIES:

The student chapter of the Institute of Electrical and Electronic Engineers is the professional organization; Eta Kappa Nu is the electrical and computer engineering honor society; and Tau Beta Pi is the honor society for all engineering fields.

Note: Students are encouraged to complete an average of 16 credit hours each semester or 32 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.