BS in Technology & Engineering Studies: Teaching (396547) MAP Sheet
Engineering, School of Technology
For students entering the degree program during the 2019-2020 curricular year.

This major is designed to prepare students to teach in public schools, specifically grades 7-12. In order to graduate with this major, students are required to complete Utah State Office of Education licensing requirements. To view these requirements go to http://education.byu.edu/ess/licensing.html or contact Education Advisement Center, 350 MCKB, 801-422-3426.

### University Core Requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion Cornerstones</td>
<td>1</td>
<td>2.0</td>
<td>REL A 275</td>
</tr>
<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
<td>1</td>
<td>2.0</td>
<td>REL A 275</td>
</tr>
<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
<td>1</td>
<td>2.0</td>
<td>REL A 250</td>
</tr>
<tr>
<td>Foundations of the Restoration</td>
<td>1</td>
<td>2.0</td>
<td>REL C 225</td>
</tr>
<tr>
<td>The Eternal Family</td>
<td>1</td>
<td>2.0</td>
<td>REL C 200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Individual and Society</td>
<td>1-2</td>
<td>3-6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>American Heritage</td>
<td>1</td>
<td>2-3.0</td>
<td>SC ED 353* or TECH 231*</td>
</tr>
<tr>
<td>Global and Cultural Awareness</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>First Year Writing</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Advanced Written and Oral Communications</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>1</td>
<td>3.0</td>
<td>MATH 110*</td>
</tr>
<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1-4</td>
<td>3-20.0</td>
<td>from approved list</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts, Letters, and Sciences</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Civilization 1</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Civilization 2</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Letters</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Biological Science</td>
<td>1</td>
<td>3-4.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Physical Science</td>
<td>1-2</td>
<td>3-7.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
<td>3.0</td>
<td>TECH 231*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Enrichment: Electives</td>
<td>3-4</td>
<td>6.0</td>
<td>from approved list</td>
</tr>
</tbody>
</table>
| Religion Electives | 1 | 1.0 | personal choice

FOR UNIVERSITY CORE QUESTIONS CONTACT THE COLLEGE ADVISEMENT CENTER IN 246 EB
FOR PROGRAM QUESTIONS SEE YOUR ADVISOR IN 250 SNLB

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
</table>

### Graduation Requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum residence hours required</td>
<td>30.0</td>
</tr>
<tr>
<td>Minimum hours needed to graduate</td>
<td>120.0</td>
</tr>
</tbody>
</table>

### Suggested Sequence of Courses

<table>
<thead>
<tr>
<th>Semester</th>
<th>Total Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester</td>
<td>15.5</td>
</tr>
<tr>
<td>2nd Semester</td>
<td>16.5</td>
</tr>
<tr>
<td>3rd Semester</td>
<td>16.5</td>
</tr>
<tr>
<td>4th Semester</td>
<td>16.5</td>
</tr>
<tr>
<td>5th Semester</td>
<td>16.0</td>
</tr>
<tr>
<td>6th Semester</td>
<td>14.5</td>
</tr>
<tr>
<td>7th Semester</td>
<td>12.0</td>
</tr>
</tbody>
</table>

**FRESHMAN YEAR**

1. **1st Semester**
   - TES 276 A: 3.5
   - TES 276 B: 0.5
   - TES 200: 3.0
   - Physical Science: 3.0
   - First-Year Writing or A HTG 100: 3.0
   - TES 291R: 0.5
   - Religion Cornerstone course: 2.0
   - Total Hours: 15.5

2. **2nd Semester**
   - First-Year Writing or A HTG 100: 3.0
   - CE EN 112 or CFM 105: 3.0
   - TES 229: 3.0
   - TES 291R: 0.5
   - Religion Cornerstone course: 2.0
   - Religion elective: 2.0
   - Total Hours: 16.5

**SOPHOMORE YEAR**

3. **3rd Semester**
   - TES 125: 3.0
   - CS 142: 3.0
   - TES 340: 3.0
   - TES 291R: 0.5
   - TECH 112: 1.0
   - Religion Cornerstone course: 2.0
   - Total Hours: 15.5

4. **4th Semester**
   - TES 255: 3.0
   - TES 330: 3.0
   - Biological Science: 3.0
   - TES 291R: 0.5
   - Languages of Learning: 3.0
   - Religion Cornerstone course: 2.0
   - Total Hours: 14.5

**JUNIOR YEAR**

5. **5th Semester**
   - Civilization I: 3.0
   - Advanced Writing: 3.0
   - TES 291R: 0.5
   - Religion elective: 2.0
   - SC ED 353: 3.0
   - TES Technical Elective: 2.0
   - TECH 231: 3.0
   - Total Hours: 16.5

6. **6th Semester**
   - Civilization II & Arts or Letters: 3.0
   - TES 377: 2.0
   - TES 378: 2.0
   - CPSE 402: 2.0
   - Arts or Letters: 3.0
   - Religion Elective: 2.0
   - TES 291R: 0.5
   - Total Hours: 14.5

**SENIOR YEAR**

7. **7th Semester**
   - SC ED 375: 3.0
   - TES Technical Elective: 3.0
   - TES Technical Elective: 3.0
   - TES Technical Elective: 3.0
   - General Elective: 1.0
   - Total Hours: 16.0

8. **8th Semester**
   - TES 476: 12.0
   - Total Hours: 12.0

Students are encouraged to complete an average of 15 credit hours each semester or 30 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.
BS in Technology & Engineering Studies: Teaching (396547)
2019-2020 Program Requirements (78 - 79 Credit Hours)

For students accepted into the major after August 1, 2014, grades below C in any required coursework in a teaching major or teaching minor will not be accepted. Teacher candidates must maintain a total GPA of 3.0 or higher throughout the program and to qualify for student teaching. For details on admission and retention requirements for teaching majors and teaching minors, see Educator Preparation Program Requirements in the Undergraduate Catalog.

**REQUIREMENT 1** Complete 4 options

<table>
<thead>
<tr>
<th>OPTION 1.1</th>
<th>Complete 1 course</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE EN 112 - Engineering Drafting with CAD Applications</td>
<td>3.0</td>
</tr>
<tr>
<td>CFM 105 - Introduction to Construction and Facilities Management</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**OPTION 1.2 Complete 1 course**

* MATH 110 - College Algebra (3.0)
* MATH 111 - Trigonometry (2.0)

**OPTION 1.3 Complete 11 courses**

**NOTE:** FINGERPRINTING AND FBI CLEARANCE MUST BE COMPLETED PRIOR TO ENROLLING IN TES 276A, B.

- CS 142 - Introduction to Computer Programming (3.0)
- TECH 112 - Exploration in Innovation Design Techniques (1.0)
- TES 125 - Communication Technologies and Systems (3.0)
- TES 200 - Processes and Prototyping with Wood (3.0)
- TES 225 - Electronics for Technology and Engineering Teachers (3.0)
- TES 229 - Processes and Manufacturing with Metals and Polymers (3.0)
- TES 255 - Visual Communication Design (3.0)
- TES 276A - Exploration of Teaching A (3.5)
- TES 276B - Exploration of Teaching B (0.5)
- TES 330 - Creativity, Engineering, and Problem Solving (3.0)
- TES 340 - Principles of Technology and Engineering (3.0)

**OPTION 1.4 Complete 1 course**

* ENG T 231 - Foundations of Global Leadership (3.0)
* TECH 231 - Foundations of Global Leadership (3.0)

**REQUIREMENT 2 Complete 6 courses**

**COMPLETE 6 REGISTRATIONS OF THE FOLLOWING (EXCEPT IF ENROLLED IN TES 476):**

<table>
<thead>
<tr>
<th>TES 291R - Undergraduate Seminar</th>
<th>0.5</th>
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</thead>
</table>
You may take this course up to 6 times.

**REQUIREMENT 3**

Technical Emphasis Electives: Complete 14 hours from one or more of the following areas: engineering (courses from engineering departments); technology (courses from the School of Technology); graphic design and multimedia (courses from Digital Humanities, Design, Communications); computer programming (courses from Computer Science department); business management, entrepreneurship, marketing (courses from Business Management department); non-core TES courses; or other courses with TES faculty approval. For specific courses, please visit www.et.byu.edu/tte or contact the School of Technology advisement center in 250 SNLB.

**REQUIREMENT 4 Complete 2 options**

**PROFESSIONAL EDUCATION COMPONENT:**

Licensure requirements: Contact the Education Advisement Center, 350 MCKB, 801-422-3426, to schedule the final interview to clear your application for the secondary teaching license. You should be registered for your last semester at BYU prior to the scheduled appointment.

**OPTION 4.1 Complete 5 courses**

- CPSE 402 - Educating Students with Disabilities in Secondary Classroom (2.0)
- SC ED 353 - Multicultural Education for Secondary Education (3.0)
- SC ED 375 - Adolescent Development and Classroom Management (3.0)
- TES 377 - Teaching Methods in Technology Education (2.0)
- TES 378 - Practicum in Technology Education (2.0)

**Note:** Fingerprinting and FBI clearance must be kept updated.

**OPTION 4.2** Complete 12.0 hours from the following course(s)

- TES 476 - Secondary Student Teaching (12.0)

**REQUIREMENT 5**

Complete department packet and exit interview.

**THE DISCIPLINE:**

Students graduating from the Technology and Engineering Studies program at Brigham Young University are prepared to engage in a breadth of technology and engineering-related careers, become creators and builders of technology, pursue additional education through graduate studies, and provide technical training in industrial settings. In addition, students in the Technology and Engineering Studies teaching emphasis are prepared to teach middle school and high school technology and engineering courses as designated by the Utah State Board of Education (https://www.schoools.utahe.gov/cte/tech).

Students in the program are required to take core courses in visual communications, production technologies, and the engineering design process. In addition, students will complete a series of depth courses designed to provide a conceptual understanding of engineering and technological systems, experiences in creativity and design, technological expertise, and pedagogy. Finally, students are provided with field-based experiences including internships for TES general majors and a semester-long supervised student teaching experience for those pursuing teaching licensure.

**ACADEMIC QUALITY:**

**Facilities** - The department offers some of the most advanced and innovative technology education laboratories in the nation. Facilities in drafting, metalwork, woodwork, and multi-media are also comparable with the best in the nation.

**Special programs** - The department hosts a variety of special activities during the year, including workshops in technology education for teachers and administrators in secondary schools, colleges, and universities.

**Faculty expertise** - The department has 3 faculty members with a wide range of interests and expertise. Because of the broad scope of the program, it incorporates course work from other disciplines and integrates the expertise of University faculty.

Graduating majors commonly comment that the faculty are friendly and have personal interest in them as students and offer excellent program advisement. The faculty are involved in writing for professional journals and in making presentations at regional and national conventions.

**THE EXPERIENCE:**

**Pre-professional training** - Student teaching for careers in education.

**PROFESSIONAL AND HONOR SOCIETIES:**

Student chapter of Vocational Industrial Clubs of America (VICA) and Technology and Engineering Education Collegiate Association (TEECA).

**STUDENT TEACHING:**

Students are provided an opportunity to improve their teaching skills through a student teaching experience in the public secondary schools.

**FINANCING:**

Scholarships are available. Also a number of upperdivision students are hired as laboratory assistants and teaching assistants.

**CAREER OPPORTUNITIES:**
The dramatic pace of technological innovation makes this a vital major. The current need for STEM professionals is excellent both in industry and in teaching. The degree provides a strong foundation for numerous technical and teaching-related careers, including corporate, grades 6-12, and higher education.

Career Options for TES Graduates with Teaching Emphasis:
Secondary Education Teaching License from USBE: Technology and Engineering Education

GRADUATE SCHOOL:
There will be an increasing need for technology educators at all levels. A Master’s of Science degree is offered within the department.

MAP DISCLAIMER
While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

DEPARTMENT INFORMATION
Technology and Engineering Studies
School of Technology
230 Snell Building
Brigham Young University Provo, UT 84602
Telephone: 801-422-2021

ADVISEMENT CENTER INFORMATION
Rachel Terry, Academic Advisor, School of Technology
250 Snell Building
Brigham Young University Provo, UT 84602
Telephone: 801-422-1818
sot_advisement@byu.edu