BS in Technology & Engineering Studies: Teaching (396547) MAP Sheet

Engineering

For students entering the degree program during the 2022-2023 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 https://education.byu.edu/advisement/program_entrance_application or contact Education Advisement Center, 350 MCKB, 801-422-3426. General Program Requirements Earned a minimum 3.0 total high school or college GPA (whichever is most recent) Complete and pass the BCI/FBI fingerprint background check Complete all other pre-teaching major requirements Successfully pass one of the basic skills tests listed below: ACT Minimum of 20 in English Minimum of 19 in Math Minimum of 5 in Writing SAT Minimum of 450 in Verbal Minimum of 450 in Math Minimum of 4 in Writing Praxis Core for Educators with the following scores 156 Reading (subtest #5712) 132 Writing (subtest #5722) 150 Mathematics (subtest #5732)

University Core and Graduation Requirements

University Core Requirements:
Requirements#Classes Hours Classes
Religion Cornerstones
Teachings and Doctrine of The Book of Mormon12.0REL A 275
Jesus Christ and the Everlasting Gospel12.0REL A 250
Foundations of the Restoration12.0REL C 225
The Eternal Family12.0REL C 200
The Individual and Society
American Heritage1-23.0 from approved list
Global and Cultural Awareness12-3.0SC ED 353* or TECH 231*
Skills
First Year Writing13.0 from approved list
Advanced Written and Oral Communications13.0 from approved list
Quantitative Reasoning13.0MATH 110*
Languages of Learning (Math or Language)1-43-20.0STAT 121 recommended
Arts, Letters, and Sciences
Civilization 113.0 from approved list
Civilization 213.0 from approved list
Arts 13.0 from approved list
Letters 13.0 from approved list
Biological Science 13-4.0 from approved list
Physical Science 1-23-7.0 from approved list
Social Science 13.0TECH 231*
Core Enrichment: Electives
Religion Electives 3-46.0 from approved list
Open Electives 11.0 personal choice

FOR UNIVERSITY CORE QUESTIONS AND/OR PROGRAM QUESTIONS SEE YOUR ADVISOR IN 265 CTB

*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS. Other classes may be substituted. Please see major advisor.

Graduation Requirements:
Minimum residence hours required 30.0
Minimum hours needed to graduate 120.0

Suggested Sequence of Courses
Freshman Year
1st Semester
TES 276 A 3.5
TES 276 B 0.5
TES 2003.0
Physical Science 3.0  
First-Year Writing or A HTG 1003.0  
TES 291R 0.5  
Religion Cornerstone course 2.0  
Total Hours 15.5  
2nd Semester  
First-year Writing or A HTG 1003.0  
CE EN 112 or CFM 1053.0  
MATH 1103.0  
TES 2293.0  
TES 291R 0.5  
Religion Cornerstone course 2.0  
Religion elective 2.0  
Total Hours 16.5  
Sophomore Year  
3rd Semester  
TES 1253.0  
TES 2103.0  
TES 3403.0  
TES 2253.0  
TES 291R 0.5  
TES 1121.0  
Religion Cornerstone course 2.0  
Total Hours 15.5  
4th Semester  
TES 2553.0  
TES 3303.0  
TES 3203.0  
TES 291R 0.5  
Languages of Learning 3.0  
Biological Science 3.0  
Total Hours 15.5  
Junior Year  
5th Semester  
Civilization I 3.0  
Advanced Writing 3.0  
TES 291R 0.5  
Religion elective or Social Science* 3.0  
SC ED 3533.0  
TES Technical Elective 2.0  
Religion Cornerstone Course 2.0  
Total Hours 16.5  
*Students on an older contract may still see TECH 231 as their social studies requirement. TECH 231 will be retired. You can take ME EN 231 or CCE 231 to fulfill the social science, global cultural awareness, and TECH 231 requirement. Please see advisor for any questions.  
6th Semester  
Civilization II / Arts or Letters 3.0  
TES 3772.0  
TES 3782.0  
CPSE 4022.0
Arts or Letters 3.0
Religion Elective or Social Science* 3.0
TES 291 R 0.5

Total Hours 15.5

*Students on an older contract may still see TECH 231 as their social studies requirement. TECH 231 will be retired. You can take ME EN 231 or CCE 231 to fulfill the social science, global cultural awareness, and TECH 231 requirement. Please see advisor for any questions.

Senior Year
7th Semester
SC ED 3753.0
TES 2513.0
TES Technical Elective 2.0
TES Technical Elective 3.0
TES Technical Elective 3.0

Total Hours 14.0

8th Semester
TES 47612.0

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) 2022-2023 Program Requirements (78 - 79 Credit Hours)

Licensure: This program meets the educational requirements designed to lead to an occupationally required professional license or certificate in the state of Utah. Students pursuing occupations requiring a license or certificate in a state other than Utah should contact the appropriate BYU academic advisement center as well as the licensing agency in the state where they intend to work to seek information and guidance regarding licensure and certification requirements.

This major is designed to prepare students to teach technology and engineering content in public and private schools grades 6-12. 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 https://www.schools.utah.gov/curr/licensing or contact the Education Advisement Center, 350 MCKB, 801-422-3426.

Students accepted into the major after May 2020 must (a) maintain a total GPA of no less than 2.7 after admission to teacher preparation major and/or minor programs, (b) receive a "C" or better in all education-related and major and minor required courses (including any courses taken prior to acceptance into a teaching major or minor), and (c) demonstrate sufficient and timely progress in coursework and field experiences. For additional 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
option 1.1 Complete 1 course
CCE 112 - Engineering Drafting 3.0
CFM 105 - Fundamentals of Construction and Facilities Management 3.0

option 1.2 Complete 1 course
* MATH 110 - College Algebra 3.0
MATH 111 - Trigonometry 2.0

option 1.3 Complete 13 courses
Note: Fingerprinting and FBI clearance must be completed prior to enrolling in TES 276A,B.

TES 112 - Innovation Bootcamp 1.0
TES 125 - Communication Technologies and Systems 3.0
TES 200 - Processes and Prototyping with Wood 3.0
TES 210 - Coding for Technology and Engineering Educators 3.0
TES 225 - Electronics for Technology and Engineering Teachers 3.0
TES 229 - Processes and Manufacturing with Metals and Polymers 3.0
TES 251 - Video and Photography Production 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 320 - Creative Engineering and Problem Solving I 3.0  
TES 330 - Creative Engineering and Problem Solving II 3.0  
TES 340 - Principles of Technology and Engineering 3.0  
option 1.4 Complete 1 course  
*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):  
TES 291R - Undergraduate Seminar 0.5  
You may take this course up to 6 times.  
requirement 3  
Technical Emphasis Electives: Complete 8 hours from one or more of the following areas: engineering (courses from engineering departments); technology (courses from the technology programs); 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 contact your TES Major advisor.  
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 Classrooms 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  
Student teachers/interns must complete a student teaching application through MyLink.  
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.schools.utah.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:
TES is an EPP (Educator Preparation Program) that provides students with the course work to achieve a PEL (Professional Educator License) Level 1 in technology and engineering education. This would enable a student who receives the degree and accompanying license to teach middle, junior high, and high school technology and engineering classes. TES also provides several options for students to additionally receive one or more teaching endorsements which would enable them to teach a variety of classes related to the technology and engineering domain, such as electronics, multimedia, manufacturing, tv broadcasting, photography, wood shop, robotics, computer science and programming, among other classes. However, the general B.S. in TES provides the baseline teaching licensure students need to teach in Public and or Private schools within the general technology and engineering discipline. Other opportunities for TES teaching majors would be to teach (and or design curriculum) for international schools, online schools, the DOD (Department of Defense), and potentially work in related industry fields such as manufacturing, IT, UX Design, programming, instructional design, etc. The degree also provides a foundation for graduate study in related fields.

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
250 Snell Building
Brigham Young University Provo, UT 84602
Telephone: 801-422-2021

ADVISEMENT CENTER INFORMATION
Samuel Cardenas, Academic Advisor
265 CTB Building
Brigham Young University Provo, UT 84602
Telephone: 801-422-1818
sot_advisement@byu.edu