

I. Program Description

An undergraduate degree in Technology and Engineering Education (TEE) at Utah State University (USU) prepares students to become qualified instructors who can teach in grades 6-12 the necessary knowledge and skills needed in the promotion of technological literacy. The ever-increasing rate of technological development and the impacts of globalization have created a demand for individuals who are technologically literate, innovative and capable of working in teams.

Students have the option to emphasize their studies in Technology and Engineering Education or Trade and Technical Education.

A Technology and Engineering Education emphasis is designed to prepare students for careers in teaching at the middle school and high school levels. The courses in this option consist of communication, manufacturing, energy, power and transportation classes.

A Trade and Technical Education emphasis is designed to prepare students for teaching Career and Technical Education (CTE) courses at the high school and post-high school levels. The courses in this major consist of classes within a declared expertise of building trades, automotive technology, electricity and electronics, computer-aided drafting, nursing or culinary arts.

Students are exposed to extensive practical classroom experience through role-playing, video-laboratory activities, clinical experiences and student teaching.

To keep potential and current students informed and up-to-date, the program keeps a current website (www.tee.usu.edu). In addition, students enrolled in the program are kept informed through a listserv maintained by the program's advisor.

II. Degrees and Emphasis Options Offered

Those earning a Bachelor of Science (B.S.) Degree in Technology and Engineering Education become eligible for teacher licensure (grades 6-12) in Utah. Students have the option to emphasize their studies in Technology and Engineering Education or Trade and Technical Education.

III. Program Mission

The mission of the undergraduate Technology and Engineering Education program at Utah State University (USU) is to prepare qualified secondary education (grades 6-12) technology and engineering education teachers who can provide their students with the technological literacy required to live and work in today's 21st Century global society. Graduates of the program are expected to lead their profession, develop a passion for life-long learning and advance technological literacy in the community and schools.

IV. Alignment of Program Mission with Departmental Mission

The mission of the School of Applied Sciences, Technology and Education (ASTE) is to apply the Land Grant University philosophy to teaching & learning, discovery, research and outreach. The School uses proven educational processes which include formal and informal instruction, experiential learning, leadership, and personal development at an under graduate, graduate and community-based level.

The Technology and Engineering Education program is housed in the school of Applied Sciences, Technology and Education (ASTE) and aligns very well with this School and its other programs, especially those involved in training teachers in agriculture, and in family and consumer science.

V. Program Goals

The major goals of the Technology and Engineering program at USU are:

1. To prepare high quality technology and engineering education teachers who can successfully teach in secondary education programs here in Utah and throughout the U.S.
2. To provide students with the necessary knowledge and skills so that they can teach the content identified in the *Standards for Technological Literacy: Content for the Study of Technology* (see Appendix 8A).
3. To prepare professional teachers who can develop, implement and evaluate technology and engineering standards-based curricula and programs that promote technological literacy.
4. To prepare students who can effectively use a variety of instructional strategies and teaching methods that promote inquiry-based learning and problem-solving.
5. To prepare professional teachers who can effectively develop and manage technology and engineering education laboratories that promote student learning.
6. Describe the role of Technology and Engineering in the teaching of Science, Technology, Engineering and Mathematics (STEM).
7. To prepare students with a quest for life-long learning.

VI. Program Learning Objectives

After completing the program in Technology and Engineering Education at Utah State University, students will be able to:

1. Be capable of implementing a contemporary technology and engineering education program based on the *Standards for Technological Literacy*.
2. Possess a conceptual understanding of 1) the nature of history of technology and 2) the influence of technology on society and the environment.
3. Demonstrate competence with various technologies including design, communication, manufacturing, construction, transportation, energy, bio-related technology and computer technology.

4. Employ and teach problem solving methods (e.g., engineering design) to solve technical problems.
5. Demonstrate the ability to operate laboratory tools and equipment in an efficient and safe manner and teach accordingly.
6. Display professional habits including involvement in professional associations related to technology and engineering education, continuous learning and collegiality.
7. Demonstrate ability to manage, schedule, maintain and operate labs for technology and engineering education programs.
8. Be cable of using a wide range of contemporary instructional strategies and teaching methods to meet a variety of student abilities, age levels and cultural differences.
9. Demonstrate the ability to plan curriculum with organized units, lessons and daily activities.
10. Demonstrate the ability to assess, monitor and evaluate student achievement using formative and summative evaluation techniques.
11. Become familiar with the formal and informal aspects of a career in Technology and Engineering Education.
12. Explore the diversity of teaching opportunities in Technology and Engineering Education through internships, clinical experiences, and student teaching.
13. Demonstrate teaching competency in a student teaching placement under the direction of a mentoring teacher and assessment by professors in the area of TEE.
14. Design performance assessment systems based upon stated learning/program objectives.

VII. Course Map

Technology & Engineering Education

<u>TEE Program Learning Objectives</u>	<u>Required Classes</u>															
	TEE 2020	TEE 2030	Manufacturing ASTE 3030 or AVL 4200	TEE 1020	Energy, Power, Trans. ENGR 2210 or TEE 2300	TEE 1040	TEE 2220	TEE 1000	TEE 3440	MATH 1210	PHYS 1800	Related Tech. BIOL 1610 or CHEM				
1. Be capable of implementing a contemporary technology and engineering education program based on the Standards for Technological Literacy.	X	X	X	X	X	X	X	X	X							
2. Possess a conceptual understanding of: 1) the nature of history of technology and 2) the influence of technology on society and the environment.	X	X	X	X	X	X	X	X	X							
3. Demonstrate competence with various technologies including design, communication, manufacturing, construction, transportation, energy, bio-related technology and computer technology.	X	X	X	X	X	X	X	X	X							
4. Employ and teach problem solving methods (e.g., engineering design) to solve technical problems.	X	X	X	X	X	X	X	X	X							
5. Demonstrate the ability to operate laboratory tools and equipment in an efficient and safe manner and teach accordingly.	X	X	X	X	X	X	X	X	X							
6. Display professional habits including involvement in professional associations related to technology and engineering education, continuous learning, and collegiality.																
7. Demonstrate ability to manage, schedule, maintain, and operate labs for technology and engineering education programs.	X	X	X	X	X	X	X	X	X							
8. Be cable of using a wide range of contemporary instructional strategies and	X	X	X	X	X	X	X	X	X							

teaching methods to meet a variety of student abilities, age levels, and cultural differences.																	
9. Demonstrate the ability to plan curriculum with organized units, lessons, and daily activities.	X	X	X	X	X		X	X	X	X							
10. Demonstrate the ability to assess, monitor, and evaluate student achievement using formative and summative evaluation techniques.	X	X	X	X	X		X	X	X	X							
11. Become familiar with the formal and informal aspects of a career in Technology and Engineering Education.	X	X	X	X	X		X	X	X	X							
12. Explore the diversity of teaching opportunities in Technology and Engineering Education through internships, clinical experiences, and student teaching.																	
13. Demonstrate teaching competency in a student teaching placement under the direction of a mentoring teacher and assessment by professors in the area of TEE.																	
14. Design performance assessment systems based upon stated learning/program objectives.	X	X	X	X	X		X	X	X	X							

Direct Assessment Methods for TEE Program
Learning Objectives (PLO)

PLO 1—Be capable of implementing a contemporary technology and engineering education program based on the *Standards for Technological Literacy: Content for the Study of Technology*.

The content knowledge for being able to implement a contemporary TEE program is delivered in the various courses indicated on the ASTE Course Map for Technology & Engineering Education (TEE). The student’s opportunity to demonstrate the ability to implement a contemporary program is primarily observed in their student teaching experience. Their assessment for this PLO are in the two sections entitled, Content Knowledge and Assessment, on the student teaching assessment instrument (see sections below).

<p>Please evaluate the student teacher using the following scale:</p> <p>5 - Demonstrates an outstanding level of competence</p> <p>4 - Demonstrates a high level of competence</p> <p>3 - Demonstrates an acceptable level of competence</p> <p>2 - Developing toward an acceptable level of competence</p> <p>1 - Fails to meet acceptable level of competence</p>
<p>Content Knowledge</p> <ul style="list-style-type: none">• Understands AND conveys accurately and clearly key concepts of subject(s) taught.• Evaluates and selects instructional resources for accuracy, accessibility, and relevance.• Makes connections to students' experiences and uses reflection to make content accessible and relevant.
<p>Assessment</p> <ul style="list-style-type: none">• Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals.• Engages learners to apply knowledge and skills in authentic contexts using a variety of formats.• Provides formative feedback to students, families, and stakeholders in a variety of ways.• Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning.• Uses summative evaluations based on multiple measures that give an accurate accounting of learning.

PLO 2—Possess a conceptual understanding of: 1) the nature of history of technology and 2) the influence of technology on society and the environment.

Each student is required to take the course TEE 3440—Science, Technology, and Modern Society. This course looks at the impacts of technology on society, the environment, and the economy. Several historical examples are used to set the stage before looking at more contemporary scientific and technological developments and accessing their impacts. One such example is the development of the Ford Model T and how it impacted society, the economy, and environment. Each student must receive a passing grade in this course.

In addition, history of technology and its impacts on society and the environment is covered in many of the program's technical courses as well. An example of this can be seen in TEE 1030—Material Processing Systems with the unit that focuses on the development of manufacturing and contributing individuals from cottage industry, through the industrial revolution, and into post-industrial manufacturing.

Directions: Match the name of the individual below to their contribution in the field of manufacturing by writing the corresponding letter in the space provided.

- | | | | |
|----|-------------------|----|-----------------|
| A. | Henry Ford | E. | Elton Mayo |
| B. | Henry Leland | F. | Fredrick Taylor |
| C. | Henry Maudslay | G. | Eli Whitney |
| D. | W. Edwards Deming | | |

- | | | |
|-------|----|---|
| _____ | 1. | Trained the next generation of manufacturing leaders and instilled precision in the machine tool industry. Built 43 special-purpose machines designed to carry out sequential operations to manufacture blocks (pulleys). |
| _____ | 2. | Personified the use of precision and interchangeability in the formative period of the automobile industry. |
| _____ | 3. | First to combine the features of the assembly line process (the conveyor), the specialization of labor, and interchangeability of parts. |
| _____ | 4. | Father of Scientific Management. |
| _____ | 5. | America's first industrial sociologist, began the counter-movement against Scientific Management. |

PLO 3—Demonstrate competence with various technologies including design, communications, manufacturing, construction, transportation, energy, bio-related technology and computer problems.

This objective is learned and demonstrated in the program's technical courses. The breadth of these courses is indicated on the ASTE Course Map for Technology & Engineering Education. Each student must pass each of these courses in the completion of the program.

An excellent indicator of our student's competence in this PLO is through our student's scores and success on the national content Praxis exam required by all TEE students prior to student teaching and Utah licensure. Utah requires a passing score of 159 on the Praxis Exam.

PLO 4—Employ and teach problem solving methods (e.g., engineering design) to solve technical problems.

The content knowledge for being able to employ and teach problem solving methods to solve technical problems is employed and practiced in the various technical courses indicated on the ASTE Course Map for Technology & Engineering Education. The student's opportunity to demonstrate the ability to teach engineering design is observed in their student teaching experience. Their assessment for this PLO is in the section entitled, Instructional Strategies, on the student teaching assessment instrument (see section below).

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Instructional Strategies

- Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials.
- Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable.
- Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills.
- Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness.

PLO 5—Demonstrates the ability to operate laboratory tools and equipment in an efficient and safe manner and teach accordingly.

This objective is learned and demonstrated in program's technical courses. The breadth these course is indicated on the ASTE Course Map for Technology & Engineering Education. Students are required to pass safety exams, demonstrate safe use of the equipment, and then follow safety practices throughout their TEE courses. Each student must pass each of these courses in the completion of the program.

In addition, during each student's Clinical I, Clinical II, and Student Teaching Experiences they are required use, demonstrate, and teach safety and safe operation of the equipment in the laboratory. During this process, each is assigned a mentoring teacher that reinforces this content and evaluates their performance.

PLO 6—Display professional habits including involvement in professional associations related to technology and engineering education, continuous learning, and collegiality.

The student's opportunity to demonstrate professional habits have been demonstrated by numerous students who have joined state and national professional organizations and attended and participated in their conferences. In addition, the student's opportunity to demonstrate professional habits is observed in their student teaching experience. Their assessment for this

PLO is in the two sections entitled, Reflection and Continuous Growth, and Professional and Ethical Behavior, on the student teaching assessment instrument (see sections below).

<p>Please evaluate the student teacher using the following scale:</p> <ul style="list-style-type: none">5 - Demonstrates an outstanding level of competence4 - Demonstrates a high level of competence3 - Demonstrates an acceptable level of competence2 - Developing toward an acceptable level of competence1 - Fails to meet acceptable level of competence
<p>Reflection and Continuous Growth</p> <ul style="list-style-type: none">• Associates with other professionals, attending meetings, joining professional societies, reading relevant literature.• Reflects on student learning as a means of improving instruction.• Is aware of how his/her own teacher behaviors/attitudes affect the learning environment and is respectful of all students.
<p>Professional and Ethical Behavior</p> <ul style="list-style-type: none">• Demonstrates effective professional behavior as a role model.• Maintains integrity and confidentiality in matters concerning student records and collegial consultation.

PLO 7—Demonstrate ability to manage, schedule, maintain, and operate labs for technology and engineering education programs.

This objective is learned and demonstrated in Teaching Methods I & II, Clinical Experience I & II, and Student Teaching. Their assessment for this PLO is in the section entitled, Learning Environments, on the student teaching assessment instrument (see section below).

<p>Please evaluate the student teacher using the following scale:</p> <ul style="list-style-type: none">5 - Demonstrates an outstanding level of competence4 - Demonstrates a high level of competence3 - Demonstrates an acceptable level of competence2 - Developing toward an acceptable level of competence1 - Fails to meet acceptable level of competence
<p>Learning Environments</p> <ul style="list-style-type: none">• Develops learning experiences that engage and support students as self-directed learners who internalize classroom expectations and procedures.• Enhances the learning environment by encouraging students to develop multiple literacies (e.g., technology, media, local and global resources, speaking/listening, reading/writing, decision-making, analysis/synthesis) in real-world contexts.

PLO 8—Be capable of using a wide range of contemporary instructional strategies and teaching methods to meet a variety of student abilities, age levels, and cultural differences.

The content knowledge for this PLO is covered in Methods II, Clinical Experience II, and in Student Teaching. In Clinical Experience II students have a homework assignment to observe two 50 minute classroom periods and identify and document various aspects of differential

learning that are used. In their student teaching experience, students practice utilizing differential learning techniques and are assessed in the section entitled, Instructional Strategies, on the student teaching assessment instrument (see section below).

<p>Please evaluate the student teacher using the following scale:</p> <p>5 - Demonstrates an outstanding level of competence 4 - Demonstrates a high level of competence 3 - Demonstrates an acceptable level of competence 2 - Developing toward an acceptable level of competence 1 - Fails to meet acceptable level of competence</p>
<p>Instructional Strategies</p> <ul style="list-style-type: none"> • Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials. • Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable. • Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills. • Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness.

PLO 9—Demonstrate the ability to plan curriculum with organized units, lessons and daily activities.

This PLO is taught and practiced in Methods I & II, Clinical Experience I & II, and Student Teaching. This is the primary focus of these five courses. A majority of the student teaching assessment instrument (see below) is devoted to this objective or ability. This represents the capstone experience of the program.

<p>Please evaluate the student teacher using the following scale:</p> <p>5 - Demonstrates an outstanding level of competence 4 - Demonstrates a high level of competence 3 - Demonstrates an acceptable level of competence 2 - Developing toward an acceptable level of competence 1 - Fails to meet acceptable level of competence</p>
<p>Learner Development</p> <ul style="list-style-type: none"> • Sets appropriate learning goals and encourages student reflection. • Incorporates opportunities for linguistic and social development. • Uses many community resources, including families/caregivers as appropriate to the school’s mission. • Modifies instructional approaches and materials for students with special needs. • Uses IEP and/or consults with special education, reading, ESL teachers, or families.
<p>Learning Differences</p> <ul style="list-style-type: none"> • Designs and adapts strategies for diverse learners, including English language learners, such as visuals, graphic organizers, gestures, and appropriate modifications. • Helps students respect contributions made by diverse learners in the classroom. • Includes multiple perspectives when presenting and assessing curriculum content.
<p>Learning Environments</p>

<ul style="list-style-type: none"> • Develops learning experiences that engage and support students as self-directed learners who internalize classroom expectations and procedures. • Enhances the learning environment by encouraging students to develop multiple literacies (e.g., technology, media, local and global resources, speaking/listening, reading/writing, decision-making, analysis/synthesis) in real-world contexts.
<p>Content Knowledge</p> <ul style="list-style-type: none"> • Understands AND conveys accurately and clearly key concepts of subject(s) taught. • Evaluates and selects instructional resources for accuracy, accessibility, and relevance. • Makes connections to students' experiences and uses reflection to make content accessible and relevant.
<p>Assessment</p> <ul style="list-style-type: none"> • Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals. • Engages learners to apply knowledge and skills in authentic contexts using a variety of formats. • Provides formative feedback to students, families, and stakeholders in a variety of ways. • Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning. • Uses summative evaluations based on multiple measures that give an accurate accounting of learning.
<p>Instructional Planning</p> <ul style="list-style-type: none"> • Differentiates instruction for individuals and groups of students by choosing appropriate strategies and accommodations, resources, materials, sequencing, technical tools, and demonstrations of learning. • Integrates reading and writing (and other content areas, when relevant) into instruction to purposefully engage learners in applying content knowledge. • Creates opportunities for students to generate and evaluate new ideas, seek inventive solutions to problems, and create original work. • Creates plans that are appropriate to students' levels, backgrounds, and standards.
<p>Instructional Strategies</p> <ul style="list-style-type: none"> • Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials. • Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable. • Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills. • Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness.

PLO 11—Become familiar with the formal and informal aspects of a career in Technology and Engineering Education.

This PLO is covered in TEE 1000—Orientation to Technology and Engineering Education where students are introduced the profession by visiting and observing practicing Technology and Engineering Education Teachers. In addition, this PLO is covered extensively in Clinical Experiences I & II, and Student Teaching. The content is also covered in Methods I & II through the supervising professor.

PLO 10—Demonstrate the ability to assess, monitor, and evaluate student achievement using formative and summative evaluation techniques.

The student's ability to assess, monitor, and evaluate student achievement is taught in Methods I & II and practiced Clinical Experiences I & II. Students demonstrate their ability to assess students in their student teaching experience and are assessed in the section entitled, Assessment, on the student teaching assessment instrument (see section below).

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Assessment

- Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals.
- Engages learners to apply knowledge and skills in authentic contexts using a variety of formats.
- Provides formative feedback to students, families, and stakeholders in a variety of ways.
- Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning.
- Uses summative evaluations based on multiple measures that give an accurate accounting of learning.

PLO 12—Explore the diversity of teaching opportunities in Technology and Engineering Education through internships, clinical experiences, and student teaching.

This PLO is covered in TEE 1000—Orientation to Technology and Engineering Education where students are introduced the diversity of teaching opportunities by visiting and observing practicing Technology and Engineering Education Teachers in various school settings. In addition, this PLO is covered extensively, in Clinical Experience I & II, and Student Teaching. The content is also covered in Methods I & II through the supervising professor.

PLO 13—Demonstrate teaching competency in a student teaching placement under the direction of a mentor teacher and assessment by professors in the area of TEE.

This PLO is covered in TEE 5630—Student Teaching in Secondary Schools. Below is the full student teaching assessment instrument used to evaluate the students' performance. This instrument is fill out by both mentoring teacher and supervising teacher. In addition, a mid-semester performance review is conducted to identify and correct any concerns well before the student teaching experience is complete.

Student Teaching Assessment SECED 7-12 (2012-2013 Format)

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence

2 - Developing toward an acceptable level of competence

1 - Fails to meet acceptable level of competence

Learner Development

- Sets appropriate learning goals and encourages student reflection.
- Incorporates opportunities for linguistic and social development.
- Uses many community resources, including families/caregivers as appropriate to the school's mission.
- Modifies instructional approaches and materials for students with special needs.
- Uses IEP and/or consults with special education, reading, ESL teachers, or families.

Learning Differences

- Designs and adapts strategies for diverse learners, including English language learners, such as visuals, graphic organizers, gestures, and appropriate modifications.
- Helps students respect contributions made by diverse learners in the classroom.
- Includes multiple perspectives when presenting and assessing curriculum content.

Learning Environments

- Develops learning experiences that engage and support students as self-directed learners who internalize classroom expectations and procedures.
- Enhances the learning environment by encouraging students to develop multiple literacies (e.g., technology, media, local and global resources, speaking/listening, reading/writing, decision-making, analysis/synthesis) in real-world contexts.

Content Knowledge

- Understands AND conveys accurately and clearly key concepts of subject(s) taught.
- Evaluates and selects instructional resources for accuracy, accessibility, and relevance.
- Makes connections to students' experiences and uses reflection to make content accessible and relevant.

Assessment

- Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals.
- Engages learners to apply knowledge and skills in authentic contexts using a variety of formats.
- Provides formative feedback to students, families, and stakeholders in a variety of ways.
- Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning.
- Uses summative evaluations based on multiple measures that give an accurate accounting of learning.

Instructional Planning

- Differentiates instruction for individuals and groups of students by choosing appropriate strategies and accommodations, resources, materials, sequencing, technical tools, and demonstrations of learning.
- Integrates reading and writing (and other content areas, when relevant) into instruction to purposefully engage learners in applying content knowledge.
- Creates opportunities for students to generate and evaluate new ideas, seek inventive solutions to problems, and create original work.
- Creates plans that are appropriate to students' levels, backgrounds, and standards.

Instructional Strategies

- Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials.
- Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable.

- Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills.
- Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness.

Reflection and Continuous Growth

- Associates with other professionals, attending meetings, joining professional societies, reading relevant literature.
- Reflects on student learning as a means of improving instruction.
- Is aware of how his/her own teacher behaviors/attitudes affect the learning environment and is respectful of all students.

Leadership and Collaboration

- Participates actively as part of the learning community, sharing responsibility for decision-making and accountability for each student's learning and giving and receiving feedback.

Professional and Ethical Behavior

- Demonstrates effective professional behavior as a role model.
- Maintains integrity and confidentiality in matters concerning student records and collegial consultation.

Teacher Dispositions

- The student teacher was concerned, thoughtful, and receptive to the feelings of others.
- The student teacher was collaborative, cooperative, and shared responsibility in a group endeavor.
- The student teacher acted in accordance with the rules and standards for right conduct, as well as program and university codes of conduct. The student teacher was able to make adjustments based on changing circumstances.
- The student teacher appreciated and valued student diversity; exhibited cultural sensitivity; was impartial, open-minded, and unprejudiced.
- The student teacher was controlled, confident, self-assured, tactful, showed restraint over own impulses and emotions.
- The student teacher was enthusiastic, motivated, dedicated, and showed initiative.
- The student teacher was thoughtful, insightful; able to take an objective, critical, and detailed look at self and teaching.
- The student teacher was able to make adjustments based on changing circumstances.
- The student teacher was a problem solver and dealt skillfully and promptly with new situations and challenges.
- The student teacher adhered to schedules and was an accountable and principled decision maker.
- The student teacher was willing to learn and was receptive to new ideas and feedback.
- Overall Rating (not an average)

In addition, this PLO is covered in TEE 5500: Student Teaching Seminar. In the seminar, students are required to complete a workbook where they demonstrate their teaching competency. Examples of workbook activities that student are required to complete include those related to the following topics: School Personnel and Procedures; Developing Lesson Plans; Teaching Methods and Techniques; Class Management; Safety; Student Evaluation; Shop Organization; Budget/Ordering; & Participating in Extra-Curricular Activities

PLO 14—Design performance assessment systems based upon stated learning/program objectives.

The student's ability to assess, monitor, and evaluate student achievement is taught in Methods I & II and practiced Clinical Experiences I & II. Students demonstrate their ability to assess students in their student teaching experience and are assessed in the section entitled, Assessment, on the student teaching assessment instrument (see section below).

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Assessment

- Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals.
- Engages learners to apply knowledge and skills in authentic contexts using a variety of formats.
- Provides formative feedback to students, families, and stakeholders in a variety of ways.
- Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning.
- Uses summative evaluations based on multiple measures that give an accurate accounting of learning.

Indirect Assessment Methods

In addition to using direct assessment methods we also use an exit survey administered at the end of student teaching. This exit survey has provided insight into the program we generally would not receive at the course level. For example, a few years back students indicated they needed experience maintaining, servicing, and networking computers to be able to manage technology and engineering labs (e.g., CAD, communication). With this information, changes were made in our communication course to emphasis building a computer form parts, installing software, and networking. Below is the survey each student completes. Data obtained in this survey helps to refine program goals and objectives as needed.

Exit Survey

At the end of your student teaching experience you will need to evaluate your experiences in the TEE program. Please answer the following question and we will discuss your responses during the final student teaching seminar. The TEE faculty are particularly interested in continuing to improve our program, so please be honest with your responses.

Please rate the following on a scale of: Poor = 1 – Excellent = 4

1. How well were you prepared to teach about technological literacy?

Poor	Average	Good	Excellent
1	2	3	4

2. How well were you prepared to teach the characteristics and scope of technology?

Poor	Average	Good	Excellent
1	2	3	4

3. How well were you prepared to teach to the core concepts of technology?

Poor	Average	Good	Excellent
1	2	3	4

4. How well were you prepared to teach about technology and its interdisciplinary nature?

Poor	Average	Good	Excellent
1	2	3	4

5. How well were you prepared to teach about technology's societal, economic, and environmental impacts?

Poor	Average	Good	Excellent
1	2	3	4

6. How well were you prepared to teach about technology's influence on history?

Poor	Average	Good	Excellent
1	2	3	4

7. How well were you prepared to teach about/using design?

Poor	Average	Good	Excellent
1	2	3	4

8. How well were you prepared to teach about/using engineering design?

Poor	Average	Good	Excellent
1	2	3	4

9. How well were you prepared to teach about/using research, troubleshooting, and innovation and invention strategies?

Poor	Average	Good	Excellent
1	2	3	4

10. How well were you prepared to teach about applying the design process?

Poor	Average	Good	Excellent
1	2	3	4

11. How well were you prepared to teach about the abilities required to use and maintain a technological product or system?

Poor	Average	Good	Excellent
1	2	3	4

12. How well were you prepared to teach to about assessing the impacts of products and systems?

Poor	Average	Good	Excellent
1	2	3	4

13. How well were you prepared to teach about the selection and use of medical technologies?

Poor	Average	Good	Excellent
1	2	3	4

14. How well were you prepared to teach about the selection and use of Agricultural and related Biotechnologies?

Poor	Average	Good	Excellent
1	2	3	4

15. How well were you prepared to teach about the selection and use of Energy and Power technologies?

Poor	Average	Good	Excellent
1	2	3	4

16. How well were you prepared to teach about the selection and use of Information and Communication technologies?

Poor	Average	Good	Excellent
1	2	3	4

17. How well were you prepared to teach about the selection and use of Transportation technologies?

Poor	Average	Good	Excellent
1	2	3	4

18. How well were you prepared to teach about the selection and use of manufacturing technologies?

Poor	Average	Good	Excellent
1	2	3	4

19. How well were you prepared to teach about the selection and use of construction technologies?

Poor	Average	Good	Excellent
1	2	3	4

20. How well were you prepared to teach to use CAD, machines, and tools?

Poor	Average	Good	Excellent
1	2	3	4

Professional Sequence:

21. How well were you prepared to use standards for technological literacy (STL) to develop and evaluate curriculum and lessons?

Poor	Average	Good	Excellent
1	2	3	4

22. How well were you prepared to make informed decisions by identifying multiple resources to create meaningful lessons?

Poor	Average	Good	Excellent
1	2	3	4

23. How well were you prepared to develop appropriate content for technology lessons?

Poor	Average	Good	Excellent
1	2	3	4

24. How well were you prepared to design and deliver technology content using a number of different teaching strategies?

Poor	Average	Good	Excellent
1	2	3	4

25. How well were you prepared to design lessons and units of study which were sensitive to cultural diversity?

Poor	Average	Good	Excellent
1	2	3	4

26. How well were you prepared to design learning experiences for students of differing abilities and ages?

Poor	Average	Good	Excellent
1	2	3	4

27. How well were you prepared to plan for and evaluate student learning?

Poor	Average	Good	Excellent
1	2	3	4

28. How well were you prepared to use educational technology during the program?

Poor	Average	Good	Excellent
1	2	3	4

29. How well were you prepared to seek out and utilize professional development opportunities?

Poor	Average	Good	Excellent
1	2	3	4

30. Overall, how would you rate the professional sequence in Technology Education?

Poor	Average	Good	Excellent
1	2	3	4

Was the interaction with a large number of practicing teachers during the program helpful with your preparation? Explain.

What support do you wish you had gotten that would have helped you in your student teaching position?

What courses were most valuable to you as you prepared for student teaching?

What courses were least valuable in the program as you prepared for student teaching? How can we improve them?

What are your teaching goals for the next five years?

Direct Assessment Data for TEE Program Learning Objectives (PLO)

PLO 1—Be capable of implementing a contemporary technology and engineering education program based on the *Standards for Technological Literacy: Content for the Study of Technology*.

All students who have completed student teaching in the last five years have been assessed and have received a 3 (i.e., demonstrates an acceptable level of competence) or higher items found on the student teaching assessment instrument.

<p>Please evaluate the student teacher using the following scale:</p> <p>5 - Demonstrates an outstanding level of competence 4 - Demonstrates a high level of competence 3 - Demonstrates an acceptable level of competence 2 - Developing toward an acceptable level of competence 1 - Fails to meet acceptable level of competence</p>
<p>Content Knowledge</p> <ul style="list-style-type: none">• Understands AND conveys accurately and clearly key concepts of subject(s) taught. (Student Mean Score = 4.75)• Evaluates and selects instructional resources for accuracy, accessibility, and relevance. (Student Mean Score = 4)• Makes connections to students' experiences and uses reflection to make content accessible and relevant. (Student Mean Score = 4)
<p>Assessment</p> <ul style="list-style-type: none">• Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals. (Student Mean Score = 4)• Engages learners to apply knowledge and skills in authentic contexts using a variety of formats. (Student Mean Score = 4.25)• Provides formative feedback to students, families, and stakeholders in a variety of ways. (Student Mean Score = 4)• Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning. (Student Mean Score = 4)• Uses summative evaluations based on multiple measures that give an accurate accounting of learning. (Student Mean Score = 4)

PLO 2—Possess a conceptual understanding of: 1) the nature of history of technology and 2) the influence of technology on society and the environment.

The data and test item below represents student scores from six sections during the past three years.

Percentages correct for the five historical questions listed below during the past three years in TEE 1030, Material Processing Systems.

Fall 2015: 81% (N=20)	Spring 2016: 99% (N=21)	Combined % for 2015-16: 90%
Fall 2014: 75% (N=11)	Spring 2015: 94% (N=13)	Combined % for 2014-15: 83%
Fall 2013: 72% (N=13)	Spring 2014: 83% (N=19)	Combined % for 2013-14: 79%

PLO 3—Demonstrate competence with various technologies including design, communications, manufacturing, construction, transportation, energy, bio-related technology and computer problems.

The TEE program has had 100% of our students receive a passing score. Using the data available since July 21, 2012, two students scored a 158 on their first attempt and received a passing score on their second attempt. The remainder of students (N=27) received a passing score on their first attempt with an average of 189.5 (i.e., much higher than the required passing score).

Below is a chart showing how Utah State University (USU) TEE graduates ranked compared to graduates in similar programs nationwide. USU TEE students are scoring very well in their content knowledge as compared to other TEE students nationwide.

Praxis Exam, Content Knowledge Results		
Category	USU TEE students	National TEE students
Time period	2012 - 2016	2013 - 2016
Number of test takers	30	1,317
Possible scoring range	100 - 200	
Median	190.5	180
Average performance range		170 -189
Performance range	158 - 200	

PLO 4—Employ and teach problem solving methods (e.g., engineering design) to solve technical problems.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

<p>Please evaluate the student teacher using the following scale:</p> <p>5 - Demonstrates an outstanding level of competence 4 - Demonstrates a high level of competence 3 - Demonstrates an acceptable level of competence 2 - Developing toward an acceptable level of competence 1 - Fails to meet acceptable level of competence</p>
<p>Instructional Strategies</p> <ul style="list-style-type: none"> Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials. (Student Mean Score = 4) Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable. (Student Mean Score = 4) Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills. (Student Mean Score = 4)

- Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness. **(Student Mean Score = 3.75; This objective needs to be reinforced in TEE Methods I and/or II)**

PLO 5—Demonstrates the ability to operate laboratory tools and equipment in an efficient and safe manner and teach accordingly.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

PLO 6—Display professional habits including involvement in professional associations related to technology and engineering education, continuous learning, and collegiality.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Reflection and Continuous Growth

- Associates with other professionals, attending meetings, joining professional societies, reading relevant literature. **(Student Mean Score = 4)**
- Reflects on student learning as a means of improving instruction. **(Student Mean Score = 4.5)**
- Is aware of how his/her own teacher behaviors/attitudes affect the learning environment and is respectful of all students. **(Student Mean Score = 4)**

Professional and Ethical Behavior

- Demonstrates effective professional behavior as a role model. **(Student Mean Score = 4.75)**
- Maintains integrity and confidentiality in matters concerning student records and collegial consultation. **(Student Mean Score = 4)**

PLO 7—Demonstrate ability to manage, schedule, maintain, and operate labs for technology and engineering education programs.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Learning Environments

- Develops learning experiences that engage and support students as self-directed learners who internalize classroom expectations and procedures. **(Student Mean Score = 4.25)**

- Enhances the learning environment by encouraging students to develop multiple literacies (e.g., technology, media, local and global resources, speaking/listening, reading/writing, decision-making, analysis/synthesis) in real-world contexts. **(Student Mean Score = 4)**

PLO 8—Be capable of using a wide range of contemporary instructional strategies and teaching methods to meet a variety of student abilities, age levels, and cultural differences.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Instructional Strategies

- Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials. **(Student Mean Score = 4)**
- Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable. **(Student Mean Score = 4)**
- Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills. **(Student Mean Score = 4)**
- Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness. **(Student Mean Score = 3.75; This objective needs to be reinforced in TEE Methods I and/or II)**

PLO 9—Demonstrate the ability to plan curriculum with organized units, lessons and daily activities.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Learner Development

- Sets appropriate learning goals and encourages student reflection. **(Student Mean Score = 4.25)**
- Incorporates opportunities for linguistic and social development. **(Student Mean Score = 4)**

<ul style="list-style-type: none"> • Uses many community resources, including families/caregivers as appropriate to the school's mission. (Student Mean Score = 4) • Modifies instructional approaches and materials for students with special needs. (Student Mean Score = 4) • Uses IEP and/or consults with special education, reading, ESL teachers, or families. (Student Mean Score = 3.5; This objective needs to be reinforced in TEE Methods I and/or II)
<p>Learning Differences</p> <ul style="list-style-type: none"> • Designs and adapts strategies for diverse learners, including English language learners, such as visuals, graphic organizers, gestures, and appropriate modifications. (Student Mean Score = 4) • Helps students respect contributions made by diverse learners in the classroom. (Student Mean Score = 4) • Includes multiple perspectives when presenting and assessing curriculum content. (Student Mean Score = 4)
<p>Learning Environments</p> <ul style="list-style-type: none"> • Develops learning experiences that engage and support students as self-directed learners who internalize classroom expectations and procedures. (Student Mean Score = 4.25) • Enhances the learning environment by encouraging students to develop multiple literacies (e.g., technology, media, local and global resources, speaking/listening, reading/writing, decision-making, analysis/synthesis) in real-world contexts. (Student Mean Score = 4)
<p>Content Knowledge</p> <ul style="list-style-type: none"> • Understands AND conveys accurately and clearly key concepts of subject(s) taught. (Student Mean Score = 4.75) • Evaluates and selects instructional resources for accuracy, accessibility, and relevance. (Student Mean Score = 4) • Makes connections to students' experiences and uses reflection to make content accessible and relevant. (Student Mean Score = 4)
<p>Assessment</p> <ul style="list-style-type: none"> • Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals. (Student Mean Score = 4) • Engages learners to apply knowledge and skills in authentic contexts using a variety of formats. (Student Mean Score = 4.25) • Provides formative feedback to students, families, and stakeholders in a variety of ways. (Student Mean Score = 4) • Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning. (Student Mean Score = 4) • Uses summative evaluations based on multiple measures that give an accurate accounting of learning. (Student Mean Score = 4)
<p>Instructional Planning</p> <ul style="list-style-type: none"> • Differentiates instruction for individuals and groups of students by choosing appropriate strategies and accommodations, resources, materials, sequencing, technical tools, and demonstrations of learning. (Student Mean Score = 4) • Integrates reading and writing (and other content areas, when relevant) into instruction to purposefully engage learners in applying content knowledge. (Student Mean Score = 4) • Creates opportunities for students to generate and evaluate new ideas, seek inventive solutions to problems, and create original work. (Student Mean Score = 4) • Creates plans that are appropriate to students' levels, backgrounds, and standards. (Student Mean Score = 3.75; This objective needs to be reinforced in TEE Methods I and/or II)
<p>Instructional Strategies</p> <ul style="list-style-type: none"> • Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials. (Student Mean Score = 4) • Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable. (Student Mean Score = 4)

- Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills. (Student Mean Score = 4)
- Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness. (Student Mean Score = 3.75; This objective needs to be reinforced in TEE Methods I and/or II)

PLO 10—Demonstrate the ability to assess, monitor, and evaluate student achievement using formative and summative evaluation techniques.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Assessment

- Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals. **(Student Mean Score = 4)**
- Engages learners to apply knowledge and skills in authentic contexts using a variety of formats. **(Student Mean Score = 4.25)**
- Provides formative feedback to students, families, and stakeholders in a variety of ways. **(Student Mean Score = 4)**
- Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning. **(Student Mean Score = 4)**
- Uses summative evaluations based on multiple measures that give an accurate accounting of learning. **(Student Mean Score = 4)**

PLO 13—Demonstrate teaching competency in a student teaching placement under the direction of a mentor teacher and assessment by professors in the area of TEE.

Student Teaching Assessment SECED 7-12 (2012-2013 Format)

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence
- 1 - Fails to meet acceptable level of competence

Learner Development

- Sets appropriate learning goals and encourages student reflection. **(Student Mean Score = 4.25)**
- Incorporates opportunities for linguistic and social development. **(Student Mean Score = 4)**
- Uses many community resources, including families/caregivers as appropriate to the school's mission. **(Student Mean Score = 4)**
- Modifies instructional approaches and materials for students with special needs. **(Student Mean Score = 4)**
- Uses IEP and/or consults with special education, reading, ESL teachers, or families. **(Student Mean Score = 3.5; This objective needs to be reinforced in TEE Methods I and/or II)**

Learning Differences

- Designs and adapts strategies for diverse learners, including English language learners, such as visuals, graphic organizers, gestures, and appropriate modifications. **(Student Mean Score = 4)**
- Helps students respect contributions made by diverse learners in the classroom. **(Student Mean Score = 4)**
- Includes multiple perspectives when presenting and assessing curriculum content. **(Student Mean Score = 4)**

Learning Environments

- Develops learning experiences that engage and support students as self-directed learners who internalize classroom expectations and procedures. **(Student Mean Score = 4.25)**
- Enhances the learning environment by encouraging students to develop multiple literacies (e.g., technology, media, local and global resources, speaking/listening, reading/writing, decision-making, analysis/synthesis) in real-world contexts. **(Student Mean Score = 4)**

Content Knowledge

- Understands AND conveys accurately and clearly key concepts of subject(s) taught. **(Student Mean Score = 4.75)**
- Evaluates and selects instructional resources for accuracy, accessibility, and relevance. **(Student Mean Score = 4)**
- Makes connections to students' experiences and uses reflection to make content accessible and relevant. **(Student Mean Score = 4)**

Assessment

- Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals. **(Student Mean Score = 4)**
- Engages learners to apply knowledge and skills in authentic contexts using a variety of formats. **(Student Mean Score = 4.25)**
- Provides formative feedback to students, families, and stakeholders in a variety of ways. **(Student Mean Score = 4)**
- Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning. **(Student Mean Score = 4)**
- Uses summative evaluations based on multiple measures that give an accurate accounting of learning. **(Student Mean Score = 4)**

Instructional Planning

- Differentiates instruction for individuals and groups of students by choosing appropriate strategies and accommodations, resources, materials, sequencing, technical tools, and demonstrations of learning. **(Student Mean Score = 4)**
- Integrates reading and writing (and other content areas, when relevant) into instruction to purposefully engage learners in applying content knowledge. **(Student Mean Score = 4)**
- Creates opportunities for students to generate and evaluate new ideas, seek inventive solutions to problems, and create original work. **(Student Mean Score = 4)**
- Creates plans that are appropriate to students' levels, backgrounds, and standards. **(Student Mean Score = 3.75; This objective needs to be reinforced in TEE Methods I and/or II)**

Instructional Strategies

- Engages students in meaningful learning experiences where they can construct their own knowledge using a wide array of tasks and materials. **(Student Mean Score = 4)**
- Uses a variety of appropriate teaching strategies to help students attain knowledge that is usable and applicable. **(Student Mean Score = 4)**
-
- Provides multiple opportunities for students to gather, analyze, synthesize, and evaluate information and ideas and develop metacognitive skills. **(Student Mean Score = 4)**
- Supports content and skill development by using multiple media and technology resources and knows how to evaluate these resources for quality, accuracy, and effectiveness. **(Student Mean Score = 3.75; This objective needs to be reinforced in TEE Methods I and/or II)**

Reflection and Continuous Growth

- Associates with other professionals, attending meetings, joining professional societies, reading relevant literature. **(Student Mean Score = 4)**
- Reflects on student learning as a means of improving instruction. **(Student Mean Score = 4.5)**
- Is aware of how his/her own teacher behaviors/attitudes affect the learning environment and is respectful of all students. **(Student Mean Score = 4)**

Leadership and Collaboration

- Participates actively as part of the learning community, sharing responsibility for decision-making and accountability for each student's learning and giving and receiving feedback. **(Student Mean Score = 4)**

Professional and Ethical Behavior

- Demonstrates effective professional behavior as a role model. **(Student Mean Score = 4.75)**
- Maintains integrity and confidentiality in matters concerning student records and collegial consultation. **(Student Mean Score = 4)**

Teacher Dispositions

- The student teacher was concerned, thoughtful, and receptive to the feelings of others. **(Student Mean Score = 4)**
- The student teacher was collaborative, cooperative, and shared responsibility in a group endeavor. **(Student Mean Score = 4)**
- The student teacher acted in accordance with the rules and standards for right conduct, as well as program and university codes of conduct. The student teacher was able to make adjustments based on changing circumstances. **(Student Mean Score = 4)**
- The student teacher appreciated and valued student diversity; exhibited cultural sensitivity; was impartial, open-minded, and unprejudiced. **(Student Mean Score = 4)**
- The student teacher was controlled, confident, self-assured, tactful, showed restraint over own impulses and emotions. **(Student Mean Score = 4)**
- The student teacher was enthusiastic, motivated, dedicated, and showed initiative. **(Student Mean Score = 4)**
- The student teacher was thoughtful, insightful; able to take an objective, critical, and detailed look at self and teaching. **(Student Mean Score = 4)**
- The student teacher was able to make adjustments based on changing circumstances. **(Student Mean Score = 4)**
- The student teacher was a problem solver and dealt skillfully and promptly with new situations and challenges. **(Student Mean Score = 4)**
- The student teacher adhered to schedules and was an accountable and principled decision maker. **(Student Mean Score = 4)**
- The student teacher was willing to learn and was receptive to new ideas and feedback. **(Student Mean Score = 4)**
- **Overall Rating (Student Mean Score = 4.25)**

PLO 14—Design performance assessment systems based upon stated learning/program objectives.

All student teachers have received a 3 or higher on the relevant items on the student teaching assessment instrument.

Please evaluate the student teacher using the following scale:

- 5 - Demonstrates an outstanding level of competence
- 4 - Demonstrates a high level of competence
- 3 - Demonstrates an acceptable level of competence
- 2 - Developing toward an acceptable level of competence

1 - Fails to meet acceptable level of competence

Assessment

- Adjusts assessment methods and makes appropriate accommodations for English language learners, students with disabilities, advanced students, and students who are not meeting learning goals. **(Student Mean Score = 4)**
- Engages learners to apply knowledge and skills in authentic contexts using a variety of formats. **(Student Mean Score = 4.25)**
- Provides formative feedback to students, families, and stakeholders in a variety of ways. **(Student Mean Score = 4)**
- Produces valid and reliable measurements of instructional objectives in order to improve teaching and learning. **(Student Mean Score = 4)**
- Uses summative evaluations based on multiple measures that give an accurate accounting of learning. **(Student Mean Score = 4)**

PLO 2—Possess a conceptual understanding of: 1) the nature of history of technology and 2) the influence of technology on society and the environment.

There are two notable trends in the data. The first is the student scores concerning the historical contributions of various individuals have steadily increased over time. The instructor of this course during the periods listed believes this can be attributed to better delivery of the material through a conceptual approach and the addition of a reflective study guide that was given homework status. It is interesting to note that the spring sections outscored the fall sections. The instructor found this difficult to explain, but it could be attributed to the fact that because the fall course is made up of freshman, and this is the first exam for many of them at the college level and their study skills have not yet matured to reflect the nature of the college environment.

PLO 1, 4 – 9

In the process of developing this evaluation and continuous improvement plan it became obvious the Student Teaching Assessment Instrument utilized in the student's capstone student teaching experience is an excellent instrument to assess many of the TEE program learning objectives. While all students during the past five years have received a 3 (i.e., demonstrates an acceptable level of competence) or higher on each objective statement in this instrument, averaging student scores over several years will identify those objectives that students excel at versus those objectives that students are demonstrating only at a satisfactory level. Those objectives that average in the 3 range will be address more strongly in the future. Currently, the department only has the scores for last year's graduates (N = 4) and will begin accumulating this data from here on out.

PLO 6—Display professional habits including involvement in professional associations related to technology and engineering education, continuous learning, and collegiality.

When funding has permitted, select TEE students have participated in national student competitions. For example, students have competed nationally against other student clubs at the International Technology and Engineering Educators Association's (ITEEA) annual conference. TEE students have also been coaches, referees, and judges at regional VEX and VEX IQ robotic competitions.

In addition, the student's opportunity to demonstrate professional habits is observed in their student teaching experience. Their assessment for this PLO is in the two sections entitled, Reflection and Continuous Growth, and Professional and Ethical Behavior, on the student teaching assessment instrument (see sections below). All student teachers have received a 3 or higher in these objectives.

Strengths, Weaknesses and Recommendations

An undergraduate degree in Technology and Engineering Education (TEE) at Utah State University (USU) prepares students to become qualified instructors who can teach in grades 6-12 the necessary knowledge and skills needed in the promotion of technological literacy. The ever-increasing rate of technological development and the impacts of globalization have created a demand for individuals who are technologically literate, innovative and capable of working in teams.

The field of Technology and Engineering Education is a high demand field and the program consistently has a 100% placement rate for those who choose teaching as a career. Secondary education school teaching opportunities exist in Utah, the Intermountain West, and the United States. The strengths, weaknesses and recommendations for the program are shown below.

Strengths

- Highly Qualified Faculty (i.e., Gary Stewardson and Edward Reeve). Notable characteristics of these faculty members include:
 - K-12 teaching experience in Technology and Engineering Education.
 - More than 25 years of research and teaching experience in technology and engineering education at the university level.
 - Real-world industry experience.
 - International Consultants in the areas of training and development, developing educational materials, and working with Government and Non-Government Agencies.
 - Long-standing involvement in the Profession of Technology and Engineering Education. For example, Edward Reeve is currently President Elect for the International Technology and Engineering Educators (ITEEA) Association and he recently completed his three-year term as President of the Council on Technology and Engineering Teacher Education (CTETE). Gary Stewardson recently finished a three year term as Chair for ITEEA's program review committee for its national conference.
- Up-to date laboratories that promote technological literacy in the designed world. For example, notable new equipment in these labs include CNC machines, a 3D-printer and a laser-engraver.
- Small size classes that promote one-one interactions with the instructor.
- Approachable Faculty members who “care” about their students succeeding.
- Commitment to the Community through outreach activities. For example, currently the program supports an after school “Design Academy” (grades 6-12) that supports students learning how to build and compete in the area of ROAV quadcopters.
- One-month summer Master’s Degree Program that brings teachers from around the region to the USU campus in the summer. Approximately 20 students enrolled in the Master’s degree program.
- A doctoral degree (PhD) in Education with a specialization in Curriculum and Instruction (C&I), emphasis in Technology and Engineering Education, is offered through the School of Teacher Education and Leadership in the College of Education and Human Services. Many of our doctoral graduates have become leaders in the field.
- Excellent working relationships with other colleges and departments on campus.

- Nationally Recognized Program.
- Recently updated TEE curriculum that reflects the current needs of the profession.
- Program area website.
- Working to develop more STEM into the undergraduate curriculum.
- Full-time graduate students who help the program through teaching, research, and service activities.

Weaknesses

- Low Student Enrollments in undergraduate program
- At times, the two faculty member's time can be spread quite thin because of other professional and university commitments (e.g., serving on graduate committees, university committees, etc.).
- Some tools and equipment are outdated (e.g., in the construction lab) and could be updated.
- Relationships with the State Technology and Engineering Education Specialist and the other schools in the state that offers the same degree program could be strengthened.
- Faculty involvement in the state technology and engineering education association could be strengthened.
- Better tracking data of graduates of the program is needed. Re-establish exit interview practice of graduates.
- No-online TEE courses or off campus TEE courses offered.
- An in-depth review is needed of the goals and objectives of each of the TEE courses offered in the program.

Recommendations

- Develop an active recruitment plan to get new undergraduates into the program (i.e., goal is to double student enrollment). Explore recruitment options with our branch campuses and USU Eastern.
- For low enrollment classes, team up with similar classes being taught in agriculture and/or family and consumer science.
- Hire another ½ of full-time faculty member in the program.
- Update outdated tools and equipment in the laboratories.
- Build stronger relationships with state organizations and BYU.
- Build a system to track program graduates.
- Conduct an in-depth program review.
- Form an advisory committee consisting of those constituents involved in Technology and Engineering Teacher education (e.g., state CTE director, or colleague from another university).