College/University President's Email *

College/University Name *

Illinois State University

College/University Address (mailing address, city, state, zip code) *

Qualifying Activities

Provide details and documentation for the activities and initiatives in which your College or University participated **during the most recent academic year**. Required documentation should be fully included within **this form** to receive credit**.**

1. College/University produced completers in a STEM career pathway.

Describe STEM career pathway requirements and numbers of completers. **[40 pts]**

In order to become a licensed Technology and Engineering Education Teacher at Illinois State University, a student must complete the required coursework (121 credit hours; 81 in content specific courses), have at least 100 hours in the public school setting prior to student teaching (observing, small group instruction, etc.), complete a student teaching practicum (16 weeks), and pass the state-based content examination in Technology and Engineering Education. The number of program completers for the 2025-2026 school year will be 14.

2. College/University organized and/or participated in a STEM outreach or community service project, preferably with a local PreK-12 school.

Describe STEM outreach or community service project. **[30 pts]**

Technology and Engineering Education students and faculty are extremely involved at the local, state, and national levels. For example, for the past 16 years, Illinois State University Technology and Engineering Education students and faculty have worked with Playmates Preschool on various STEM-based topics and events. This year, we helped to run “Construction Technology” night at the preschool (please see construction pictures below). Another project that Technology and Engineering Education completed this fall was based on celebrating military veterans. Students and faculty handcrafted 30 United States flags and customized each one with the veteran’s name and branch of service. Each flag was given to a veteran in the College of Applied Science and Technology (please see a collage picture below). A third example of our national service relates to the national TEECA, where Illinois State University has a national officer. Our national officer helped to develop the Midwest TEECA events this past fall and has helped to organize the TEECA events at the 2026 ITEEA Conference.

Upload photo(s) of STEM outreach or community service project. **[10 pts]**

5 photos max.

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3. Two or more instructors/professors collaborated on an integrative STEM project.

List instructors/professors' names and subject areas, and describe collaborative, integrative STEM project, focusing on the integrative nature of the teaching and learning. **[30 pts]**

STEM faculty work and collaborate within the Department of Technology and through the Center for Mathematics, Science, and Technology (CeMaST). There are two pictures included of our CeMaST STEM Ambassadors event. Our most recent collaboration project within the Department of Technology was to help organize, host, and present at the State of Illinois Technology Education Conference, which was held in October. There are two pictures included of an engineering design hands-on presentation we delivered at the state conference, where participants produced a bottle opener using CNC equipment.

Our most recent collaboration project with the Center for Mathematics, Science, and Technology (CeMaST) is to provide professional development for K-12 STEM teachers in Illinois, host a state-wide high school research symposium, and serve as STEM ambassadors.

Upload photo(s) of collaborative, integrative STEM project. **[10 pts]**

5 photos max.

image1 - Chris M... IMG_5813 - Chris... IMG_6103 - Chris... IMG_6104 - Chris...

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4. College/University hosted and/or sponsored a family-oriented STEM event.

Describe family-oriented STEM event. **[20 pts]**

One of the most fulfilling family-oriented STEM events we have completed was a joint effort between two student organizations in the Department of Technology where students with disabilities who could not easily participate in "Trick or Treat" on Halloween were designed a custom-made costume that fit within their wheelchairs. We completed this project for three consecutive years. The project was entitled "Walking and Rolling".

Upload photo(s) of family-oriented STEM event. **[10 pts]**

5 photos max.

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5. College/University hosted and/or sponsored a STEM Career Fair or similar event.

Describe STEM Career Fair or a similar event. **[20 pts]**

STEM students at Illinois State University participate in a multitude of STEM career fairs throughout each year located at Illinois State University, through regional career fairs (sponsored by business and industry), and through professional conferences, like the ITEEA international conferences. The placement rate for STEM majors is nearly 100%.

Upload photo(s) of STEM Career Fair or similar event. **[10 pts]**

5 photos max.

careerfair - Chris ... careerfair2 - Chri...

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Instructor(s)/professor(s) presented a STEM-related session at the 2025 ITEEA Annual Conference in St. Louis, MO or a similar National or International Conference during the most recent school year. Provide conference title, date of presentation, presentation title, and name(s) of presenter(s). **[20 pts]**

Creativity and Engineering Design. Presentation at the 87th Annual International Technology and Engineering Educators Association Conference, St. Louis, Missouri.

Chain of Commitment: Linking Efforts for Teacher Retention in Technology and Engineering Education. Maley Spirit of Excellence Session at the 87th Annual International Technology and Engineering Educators Association Conference, St. Louis, Missouri. Featured Presentation

TEECA Networking Event. Session at the 87th Annual International Technology and Engineering Educators Association Conference, St. Louis, Missouri.

Teaching Engineering Design and Agriculture Using Hydroponics and Vertical Farms. CareerTech VISION 2023 Conference. Association for Career and Technical Education. San Antonio, TX

Surveying the landscape of engineering and technology teacher preparation. 1909 Conference Advancing Thought, Research, and Practice in Technology and Engineering Education. Memphis, TN.

Instructor(s)/professor(s) participated in the STEM Showcase at the 2025 ITEEA Annual Conference in St. Louis, MO. Provide name(s) of presenter(s) and title of presentation. **[20 pts]**

Illinois State University participated in the STEM Showcase last year with our TEECA chapter leading the presentations.

Every state chapter was asked to have a STEM Showcase table.

Instructor(s)/professor(s) presented a STEM-related session at the ITEEA 2025 Virtual Fall Forum. Provide presentation title, and name(s) of presenter(s). **[20 pts]**

None.

Instructor(s)/professor(s) published an article or manuscript in a peer-reviewed journal in the past three years. Provide complete citation, article URL, or other publication identifier. **[20 pts]**

Creativity and engineering design: An invaluable relationship. Technology and Engineering Educator, 2(2), 8-13.

Technology and engineering students learn bicycle design involving frame stiffness. Technology and Engineering Educator, 1(2), 19-23.

Engineering Fundamentals (3rd ed.). Tinley Park, IL: Goodheart-Wilcox, Inc.

The role of spatial visualization ability in course outcomes and student retention within technology programs. Journal for Geometry and Graphics, 26(1), 159-170.

A collaborative model for university and K-12 partnerships: Using distance learning technology for pre-service teacher clinical experiences. Technology and Engineering Teacher, 81(7), 12-16.

Student retention in an engineering technology program: The role of spatial visualization ability. Published proceedings from the 2022 American Society of Engineering Education Conference, Minneapolis, MN.

School news or event was publicized on ITEEA's News webpage or in ITEEA's *STEM Connections* newsletter. Provide date and title of post and description of publicized news or event. **[20 pts]**

Illinois State University was featured in the fall 2025 TEECA newsletter.

Instructor/professor actively sought out research opportunities, e.g., submitted a grant proposal related to *Standards for Technological and Engineering Literacy (STEL)*, to advance the technology and engineering education profession. Provide participant name, research opportunity, and link to proposal, if available. **[20 pts]**

Listed below are two funded grants that are relative to this application.

Title, Illinois Technology Student Association
Funding Agency, Illinois State Board of Education

Principal Investigator
Date, 7/1/07-Present
Amount, $213,077

Title, Illinois Career and Technical Education Innovative Curriculum Resources Project
Funding Agency, Carl D. Perkins/Federal/Illinois State Board of Education

Date, 7/1/17-6/30/21
Amount, $2,515,550

Title, Active Learning Modules to Support Problem-Based Learning: Effects on Engineering Retention and Academic Outcomes of At-Risk Students.
Funding Agency, National Science Foundation'

Date, 2019-2020
Amount, $599,485 (ISU Portion - $80,000)

College/University had an active STEM-related student organization chapter, e.g., Technology and Engineering Education Collegiate Association (TEECA). Provide student organization name, chapter advisor name, and chapter number (or another identifier). **[20 pts]**

Illinois State University has an extremely active TEECA Chapter, including a National TEECA officer. TEECA members are involved with developing and delivering local, state, and international professional development, which is highlighted by their involvement with the Illinois Technology Student Association.

Note: We wish this application had an area to upload pictures and videos that could showcase TEECA events because we have so much to show this committee.

Preservice teachers participated in a STEM-related student organization, e.g., Technology and Engineering Education Collegiate Association (TEECA), competition or event. Provide student organization name, chapter advisor name, and name and date of competition or event. **[20 pts]**

The ISU TEECA chapter, has participated in the National TEECA competitions since 1999.

College/University had an active honor society chapter, e.g., National STEM Honor Society or Epsilon Pi Tau. Provide honor society organization, chapter advisor name, and chapter number (or another identifier). **[20 pts for each]**

We no longer have an active EPT chapter.

Instructor(s)/professor(s) participated in an ITEEA STEM CTL™ professional learning byDesign event, e.g. virtual workshop, microbadge, asynchronous training, or summer workshop. Provide teacher name and date and title of event. **[20 pts]**

College/University adopted safety protocols – a standard operating procedure for the STEM lab that may include a safety manual, safety rules, HAZMAT sheets, procedures should an accident occur – for your STEM classroom or lab and post it in your classroom and/or on your school's website. Upload a copy of your safety protocol document(s). **[20 pts]**

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College/University introduced and/or used the Engineering byDesign curriculum in at least one pre-service course. List student's name(s) and course(s) accessed. **[20 pts]**

None in 2024.

Describe how your Technology, Engineering, and STEM curriculum addresses each of the eight Standards from ITEEA's *Standards of Technological and Engineering Literacy (STEL)*. Include links to lesson plans or activities developed by preservice teachers, if available. [10 pts each]

a. The Nature and Characteristics of Technology and Engineering

Specifically, the Nature and Characteristics of Technology and Engineering is focused on in the Introduction to Teaching Technology Course.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

b. Core Concepts of Technology and Engineering

Specifically, the Core Concepts of Technology and Engineering are focused on in (a) Introduction to Teaching Technology, (b) Fundamentals of Power Technology, (c) Technical Drawing and Constraint-Based Modeling, (d) Building Construction, (e) Manufacturing Processes, (f) Graphic Communications Technology, and (g) Computer Networking Systems coursework.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

c. Integration of Knowledge, Technologies, and Practices

Specifically, the Integration of Knowledge, Technologies, and Practices are focused on in the (a) Engineering Design, (b) Medical, Agricultural, and Bio-Related Technologies, and (c) Teaching Energy, Power, and Transportation Technologies courses.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

d. Impacts of Technology

Specifically, the Impacts of Technology are focused on in the (a) Engineering Design, (b) Medical, Agricultural, and Bio-Related Technologies, and (c) Teaching Energy, Power, and Transportation Technologies courses.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

e. Influence of Society of Technological Development

Specifically, the Influence of Society of Technological Development can be found in (a) Engineering Design, (b) Medical, Agricultural, and Bio-Related Technologies, and (c) Teaching Energy, Power, and Transportation Technologies courses.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

f. History of Technology

Specifically, the History of Technology can be found in (Introduction to Teaching Technology, (b) Engineering Design, (c) Medical, Agricultural, and Bio-Related Technologies, and (d) Teaching Energy, Power, and Transportation Technologies courses.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

g. Design in Technology and Engineering

Specifically, Design in Technology and Engineering can be found in (a) Engineering Design, and (b) Medical, Agricultural, and Bio-Related Technologies courses.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

h. Applying, Maintaining, and Assessing Technological Products and Systems

Specifically, Applying, Maintaining, and Assessing Technological Products and Systems are found in each of the classes listed below, and expanded upon during the Competencies for Teaching course.

*Introduction to Teaching Technology
*Engineering Design
*Medical, Agricultural, and Bio-Related Technologies
*Teaching Energy, Power, and Transportation Technologies
*Competencies for Teaching
Fundamentals of Power Technology
Technical Drawing and Constraint-Based Modeling
Building Construction
Manufacturing Processes
Graphic Communications Technology
Computer Networking Systems

College/University has an active ITEEA Institutional Membership and/or at least one instructor or professor has an active individual ITEEA Professional Membership at the time of application. For individual memberships, provide member name(s). **[20 pts]**

ISU is an ITEEA Institutional Member.

Video Submission

Develop and submit a video that showcases your College/University as a STEM School of Excellence candidate. Sample videos are available on the STEM School or Excellence webpage and may include: interviews with your Dean, Professor, and/or students discussing your program; showcase of projects from school; and/or a recording from a STEM event you hosted. **[30 pts]**

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Pay Application Fee *

Prior to submission, you must request an invoice for or pay the STEM School of Excellence application fee (ITEEA members: $195.00; Non-ITEEA members: $295.00).

Enter your 4-digit order number below.