

Illinois State University

Department of Technology

Annual Assessment Report for 2023-2024

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**Department of Technology
2023-2024 Assessment Report**

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Overview of Assessment Methods and Reports

The Department of Technology offers five undergraduate degrees: B.S. in Computer Systems Technology (CST), B.S. in Construction Management (CM), B.S. in Engineering Technology (ET), B.S. in Graphic Communications Technology (GCT), B.S. in Sustainable and Renewable Energy (SRE), and B.S. in Technology & Engineering Education (TEE). The Department also offers a M.S. in Technology with areas of specialization in Project Management, Quality Management and Analytics, and STEM Education and Leadership. Each program has an Academic Assessment Plan (AAP) posted on the University Assessment Services (UAS) website (<http://assessment.illinoisstate.edu/program/cast/>).

This annual Department Assessment Report is comprised of four sections.

1. Assessment of student learning outcomes for each sequence or program. The analysis is in dashboard format that includes the intended learning outcomes of the program, benchmarks and both direct and indirect measurements from a variety of sources, and any actions planned.
2. Each degree program's on-going development is guided by a strategic planning document called a "Program Goal Report". This report includes the mission of the degree program, the goals of the program, goal alignment with department goals, college goals, and Educating Illinois goals, a plan of work from the previous year, and a report on the outcomes of that plan of work.
3. A semiannual senior exit survey is conducted each year. The exit survey provides information on departmental services such as advisement, equipment and facilities, and overall perceptions on the quality of instruction. This survey also captures data points on learning outcomes used in the learning outcomes report dashboard.
4. An annual ISU Alumni Survey is conducted by the University Assessment Services (UAS). The department participates in the UAS survey, which includes general questions on perceptions of ISU, as well as a series of questions that correspond specifically to department programs and instruction. The UAS survey collection timeline has recently changed, and the data is now reported late in the spring semester.

Learning Outcomes Measurement Points by Program and Sequence

Each academic program and sequence has the option of using the measurement tools that they deem most effective to assess learning outcomes. Direct measurement tools may include: (a) examinations or performance activities in specific classes or (b) student performance on certification examinations (AIC, CPAST, etc.). Indirect measurements include (c) results from UAS alumni survey, (d) results of the semiannual senior exit survey, and (e) results of an annual employer survey.

Assessment Information and Actions

The following events are designed to "close the loop" between collection and analysis of data and program improvement actions:

- Each program holds at least one faculty meeting to discuss the results of outcome measures and plan instructional and curricular improvements. These plans are reported annually in each program's Learning Outcomes Report and also provided to the University Assessment Services.
- Programs are strongly encouraged to share their outcomes with advisory committees for discussion. In many cases, this leads to plans for improvement reported in the Learning Outcomes Report.
- As appropriate, the annual faculty retreat will include a session dedicated to assessment planning.

Program Goals Report and Work Plan

Each program in the Department of Technology has a strategic plan for on-going development and planning. A plan of actionable items are developed each year and then reported on for progress the following year. These plans and reports can be found within this report.

Reporting Learning Outcomes & Program Work Plans

The Learning Outcomes and the Program Goals Report is submitted to the chair in the Fall semester of each year. The plan of work for the coming year is also submitted for review and discussion with the chair. As appropriate, results may be further disseminated to the faculty at large, and/or Advisory Committees for further action aimed at program improvement. All data and reports are made available on a cloud-based document management system.

Program Learning Outcomes Dashboards

Computer Systems Technology
Construction Management
Engineering Technology
Graphic Communications Technology
Sustainable & Renewable Energy
Technology & Engineering Education
Graduate Program

Dept. of Technology 2023-2024 Learning Outcomes: BS in Computer Systems Technology

	Direct Measurements	Indirect Measurements			
<p>Computer Systems Technology Learning Outcomes.</p> <p>The graduate will be able to:</p>	*Performance Criteria Evaluation	Employer Survey 2014, 2016, 2017, 2019 (employers n=, alumni n=11)	Senior Survey (n=18, Fall 2023/Spring 2024) (1.0 - 5.0 scale)	Alum Survey (n=2, 2015, 2016, 2017) 1.0 - 5.0 scale	Planned Curricular Actions for Improvement (2024-2025)
1. Apply the fundamental concepts of digital/analog signals and electronics to computer systems, networking, and media	(a) 80%	10=Meets Expectations; 0=Below Expectations	4.1	4.1	CST faculty will review and refine course learning outcomes, curriculum, and content, with a primary focus on TEC 143, TEC 245, and TEC 283. Revised outcomes and objectives will be developed, and recommendations will be presented to Advisory Board members for feedback and alignment with industry standards.
2. Use specifications and applications of computer components, network devices, and media in network administration	(b) 75%	10=Meets Expectations; 0=Below Expectations	4.1	3.5	We will continue integrating concepts of cloud computing security, wireless networking, the Internet of Things (IoT), and smart homes and cities into our courses to ensure alignment with emerging technologies and industry trends, enhancing the relevance and applicability of course content.
3. Configure network operating systems and manageable network devices	(c) 85%	10=Meets Expectations; 0=Below Expectations	4.3	3.5	We will integrate hybrid computing, generative artificial intelligence (AI), AI in cybersecurity, advanced virtualization tools, and edge computing into teaching courses to effectively align with learning outcomes and enrich course content.
4. Design database interfaces and utilize basic programming techniques for business applications.	(d) 75%	9=Meets Expectations; 1=N/A 0=Below Expectations	4.0	3.5	Incorporate software-defined networking (SDN) tools to effectively manage networking technologies and facilitate seamless access to database systems.

Dept. of Technology 2023-2024 Learning Outcomes: BS in Computer Systems Technology

<p>5. Use project management techniques to develop solutions, and address business issues to meet client needs.</p>	<p>(b) 75%</p>	<p>10=Meets Expectations; 0=Below Expectations</p>	<p>3.9</p>	<p>3.5</p>	<p>Evaluate the current state of the TUR 173 lab, including its existing equipment, and develop a proposal for a modernized lab equipped with updated, industry-relevant tools to enhance its functionality and align with contemporary educational and technological standards.</p>
<p>*Performance Benchmarks</p>		<p>Action benchmark for Survey Data < 3.5/5.0 scale</p>	<p>Action benchmark for Employer Data < 75% “meets expectations” or above</p>		
<p>Direct Measurement: Performance criteria: Overall average of each related project (a) Design, build, and code a real-life application like a digital clock and integrated timer with LED display (TEC 244); (b) Network Design team project documenting and presenting topology, network devices, wired and wireless configuration, security, data capacity, and pricing including justification; posed by and evaluated by a team of external senior network managers in industry (TEC 390); (c) Configure Windows server operating systems with multiple roles and several other specifications (TEC 245); (d) Develop end-to-end Java application that involves database design, middle-tier logic, and user interface.</p>		<p>5 – well above average 4 – above average 3 – average 2 – below average 1 – well below average</p>			

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Construction Management

Construction Management Learning Outcomes The graduate will be able to:		Direct Measurements		Indirect Measurements				Planned Curricular Actions for Improvement (2024-2025)
		Students' Work in CM Courses		Employer Survey ² (n=19, no of graduates hired=91) <i>Meet Expectation/ Below Expectation/ N/A</i>	Senior Survey ³ (n=32, Fall 2023/ Spr 2024)	ISU Alum Survey ³		
		Overall Score	Courses					
1	Create written communications appropriate to the construction discipline.	90.0%	TEC 394 (n = 51)	16/0/2	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
2	Create oral presentations appropriate to the construction discipline.	90.8%	TEC 394 (n =51)	15/0/3	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
3	Create a construction project safety plan.	65.3%	HSC 272 (n = 42)	13/1/4	93%	4.6	N/A	Faculty review & monitor. Since HSC 272 is in a different department and it is challenging to get data, this might be assessed in future CM courses.
4	Create construction project cost estimates .	85.4%	TEC 229 (n =59)	15/0/3	100%	4.7	N/A	No action at this time. Objective and self-report measures all positive.
5	Create construction project schedules .	86.2%	TEC 325 (n =59)	14/0/4	100%	4.6	N/A	No action at this time. Objective and self-report measures all positive.
6	Analyze professional decisions based on ethical principles .	88.6%	TEC 120 (n = 81); TEC 123 (n = 69)	16/0/2	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
7	Analyze methods, materials, and equipment used to construct projects.	77.7%	TEC 224 (n =36); TEC 292 (n =47)	15/0/3	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Construction Management

8	Apply electronic-based technology to manage the construction process.	99.4%	TEC 217 (n =32)	16/0/2	100%	4.4	N/A	No action at this time. Objective and self-report measures all positive.
9	Apply basic surveying techniques for construction layout and control.	93.7%	TEC 223 (n =53)	12/1/5	92%	4.2	N/A	No action at this time. Objective and self-report measures all positive.
10	Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.	88.8%	TEC 226 (n =50); TEC 229 (n =67)	15/1/2	94%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
11	Understand construction accounting and cost control .	98.6%	TEC 326 (n =67)	14/0/4	100%	4.2	N/A	No action at this time. Objective and self-report measures all positive.
12	Understand construction quality assurance and control .	86.4%	TEC 292 (n =47)	14/1/3	93%	4.4	N/A	No action at this time. Objective and self-report measures all positive.
13	Understand construction project control processes.	92.3%	TEC 325 (n =60)	14/0/4	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
14	Understand the legal implications of contract, common, and regulatory law to manage a construction project.	89.0%	TEC 226 (n =28)	11/3/4	79%	4.4	N/A	No action at this time. Objective and self-report measures all positive.
15	Understand the basic principles of sustainable construction .	81.2%	TEC 329 (n =35)	12/0/6	100%	4.7	N/A	No action at this time. Objective and self-report measures all positive.
16	Understand the basic principles of structural behavior .	96.8%	TEC 327 (n =55)	14/0/4	100%	4.4	N/A	No action at this time. Objective and self-report measures all positive.
17	Understand the basic principles of mechanical, electrical and piping systems .	93.4%	TEC 222 (n =41)	13/2/3	87%	4.4	N/A	No action at this time. Objective and self-report measures all positive.

Note

1	Benchmark: >70% /100% or exceed national average	Action benchmark for Survey Data: < 3.5/5.0 scale	Action Benchmark for employer data:
2	# of 'meets expectations'/# of 'below expectations'/# of 'N/A'		

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Construction Management

3	Benchmark for Action for Survey Data < 3.5 on 5-pt. scale	Scale	5	Well above average	<75% "meets expectations" or above
4	<i>nd</i> = No Data		4	Above average	
5	= Measure below benchmark highlighted in Red.		3	Avg	
6	Trigger for action = 2 or more measures below benchmark		2	Below average	
			1	Well below average	

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Engineering Technology

Engineering Technology program updated its learning outcome in the spring 2023, The direct measurements are based on the new outcomes and the indirect measurement are from the old outcomes.

The table below shows the student outcomes and performance indicators for the various student outcomes

Student Outcomes	Performance Indicators			
	PI:1	PI:2	PI:3	PI:4
SO1: an ability to apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline	Identifies the problem and problem-solving strategy (Knowledge)	Applies appropriate solution techniques using math/science/engineering, and technology principles. (Application)	Solve a calculation problem using tools in science and engineering (Application)	Recommend and defend the solution (Evaluate)
SO2: an ability to design systems, components, or processes meeting specified needs for broadly defined engineering problems appropriate to the discipline	Identify the critical elements of a broadly defined engineering problem (e.g., the need, criteria, constraints, etc.) (Identify)	Analyze and compare existing solutions (Compare/ Analyze)	Select and apply appropriate tools, techniques, and methods for problem-solving (Identify/ Apply)	Design and develop a solution based on a specific need (Synthesize/ Apply)
SO3: an ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;	Identify and select appropriate technical literature (knowledge)	Present information orally to an audience	Generate graphical representation(s) of data	Create a written technical report

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Engineering Technology

SO4: an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes;	Follow the design of an experiment plan (knowledge)	Acquire data on appropriate variables (application)	Compare experimental results to appropriate theoretical models (analysis)	Offer explanations of observed differences between model and experiment (evaluation)
SO 5: an ability to function effectively as a member as well as a leader on technical teams.	Participates in the establishment of goals and work plans of the team.	Contributes to the development of a collaborative team environment.	Encourages an inclusive team environment.	Exhibits dependability in the achievement of the team's goals.

The table below shows the mapping of the ET curriculum to the various student outcomes

ET Major courses	Student Outcome 1 (SO1)				Student Outcome 2 (SO2)				Student Outcome 3 (SO3)				Student Outcome 4 (SO4)				Student Outcome 5 (SO5)			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TEC 100 Professional Development in Technology *																				
TEC 111 Fundamentals of Power Technology	X	X	X	X	X	X	X	X												
TEC 116 Intro to Technical Drawing & Constraint-	X	X			X	X	X	X			X									

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Based Solid Modeling																				
TEC 130 Introduction to Manufacturing Processes	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X		
TEC 151 Introduction to Computer Systems Technology *																				
TEC 216 Constraint-Based Solid Modeling & Production Drawings	X	X	X	X	X	X	X	X	X	X	X	X					X	X	X	X
TEC 233 CNC and Machining	X	X	X		X	X	X	X	X		X		X	X	X	X				
TEC 234 Robotic Systems Integration	X	X		X	X	X	X	X	X	X		X								
TEC 240 Electric Circuits & Machines	X	X	X		X	X	X	X	X				X	X	X					
TEC 263 Automated Fluid Power Systems	X	X	X	X	X	X	X	X												
TEC 270 Managing	X	X	X	X	X	X	X	X	X		X									

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Technological Systems																				
TEC 285 Industrial Plastics	X	X	X	X	X	X	X	X			X	X	X	X	X	X				
TEC 293 Mechanical Properties of Materials	X	X	X	X	X	X	X	X			X	X	X	X	X	X				
TEC 313 Quality Systems for Technology	X	X	X	X	X	X	X	X	X		X		X	X	X	X				
TEC 320 Project Management	X				X	X	X	X	X	X	X	X	X	X	X	X				
TEC 330 Applied Economic Analysis for Technologists	X	X	X	X	X	X	X	X			X	X	X	X	X	X				
TEC 392 Manufacturing Organization and Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

X
X
*

Student outcomes addressed.
 Current evaluation cycle
 Course not yet mapped to SO / planned for future work

Assessment Schedule and Frequency

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Engineering Technology

Assessment Tool	Administration Schedule	Review Schedule	Comments
Course Artifacts Assessment	At the end of each fall and spring term (For Spring 2023 / Fall 2023)	Yearly (for the first year and based on the evaluation score would change to a 2yr. / 3 yr. cycle)	Course assessment based on new Rubric starting Spring 2023.

Engineering Technology Learning Outcomes	Direct Measurements	Senior Survey (n=24) Fall 23/Spring 24	Planned Curricular Actions for Improvement (2024-2025)
The graduate will be able to:			
Identifies the problem and problem-solving strategy (Knowledge)	TEC 111 (100%)	4.5	Limited sample size Consider increasing rigor.
Applies appropriate solution techniques using math / science / engineering, and technology principles. (Application)	TEC 240 (22%)	4.3	Extra in-class instructions and practice problems In future, assess more than one problem to get more accurate and holistic assessment.
Solve a calculation problem using tools in science and engineering (Application)	TEC 240 (57%)	4.3	Extra in-class instructions and practice problems In future, assess more than one problem to get more accurate and holistic assessment.
Recommend and defend the solution (Evaluate)	TEC 263 (85%)	4.5	Consider increasing rigor In future, assess more than one problem to get more accurate and holistic assessment
Identify the critical elements of a broadly defined engineering	TEC 111 (75%)	4.3	Students should be able to reflect on to hole/shaft fit table to calculate the problem

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Engineering Technology

problem (e.g., the need, criteria, constraints, etc.) (Identify)			
Analyze and compare existing solutions (Compare/ Analyze)	TEC 263 (80%)	4.5	Determine from a set of 4 potential solutions, which PLC LD program satisfies the design requirement of a “seal-in circuit”. Then, students must complete a narrative response on why they chose the answer they did and provide reasoning for not choosing other options.
Select and apply appropriate tools, techniques, and methods for problem-solving (Identify/ Apply)	TEC 233 (76%)	4.3	Students are given print plans for a subtractive manufacturing project on the lathe. There are various solutions, techniques, and tooling that the student can apply / choose.
Design and develop a solution based on a specific need (Synthesize/ Apply)	TEC 263 (55%)	4.5	Development of PLC LD programming solution for 4 problems.
Identify and select appropriate technical literature	TEC 216 (78%)	4.2	77 % of the students achieved the target. In TEC 216 students were asked to do the fit and tolerance calculation based on fits table, and most of the students were able to identify and select the approximate values for the calculation. Should continue using the existing strategy.
Present information orally to an audience	TEC 130 (85%)	4.3	Introduce small presentation/public speaking activities throughout the course.

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Engineering Technology

			Required Presentation Participation from all students.
Generate graphical representation(s) of data	TEC 313 (69%)	4.5	Failed to achieve the target by 1%, there were two students who did not attempt the quiz. Reinforce the use of U chart by means of recorded video's and make it mandatory to watch before attempting the assignment on U chart.
Create a written technical report	TEC 285 (68%)	4.5	Make Expectations Clear for each Lab – Lab Procedure Packet, Report Rubric and Evidence.
Follow the design of an experiment plan (knowledge)	TEC 285 (82%)	4.5	Include process justification rationale in lab packet discussion section.
Acquire data on appropriate variables (application)	TEC 293 (71%)	4.5	Include additional instruction and in-class examples.
Compare experimental results to appropriate theoretical models (analysis)	TEC 293 (40%)	4.3	Include additional instruction and in-class examples. Consider assessing more than one item to get more accurate and holistic assessment.
Offer explanations of observed differences between model and experiment (evaluation)	TEC 285 (52%)	4.5	Differentiate model part and calculate expected results before running the experiment.

Dept. of Technology 2023-2024 Learning Outcomes: B.S. in Engineering Technology

Participates in the establishment of goals and workplan of the team.	TEC 130 (57%)	4.5	Increase Sample Size, Differentiate individual student participation to better assess completion., Clarify Project Deliverables (Rubric)
Contributes to the development of a collaborative team environment.	TEC 392 (78.6%)	4.4	Continue with the existing strategy
Encourages an inclusive team environment.	TEC 392 (78.6%)	4.6	Continue with the existing strategy
Exhibits dependability in the achievement of the team's goals.	TEC 392 (85.7%)	4.5	Continue with the existing strategy

Dept. of Technology 2023-2024 Learning Outcomes: B.S. Graphic Communications Technology

	Direct Measurements	Indirect Measurements			
Graphic Communications Learning Outcomes The graduate will be able to:	*Performance Criteria Evaluation	Employer Survey (n=8, 2019, 2020, 2021, 2022, 2023, 2024 (1.0-5.0 scale)	Senior Survey (n=9, Fall 2023/Spring 2024) (1.0 - 5.0 scale)	Alum Survey (n=3, 2015, 2016, 2017) (1.0 - 5.0 scale)	Planned Curricular Actions for Improvement (2024-2025)
1. Create and manage digital media content, including photographic, illustration, video, and animation.	(a) 97%	5.0 4 N/A	4.7	2.7	For Tec 152 we added a lesson on using Adobe After Effects to compliment video editing in Adobe Premiere. In Tec 253, we added a project to incorporate stop animation video to further enhance photography and video editing skills.
2. Develop production-ready graphic layouts for digital media, print products, and cross-media products like publications, packages, labels, and signage.	(a) 100% (b) 91%	5.0 1 N/A	4.8	3.0	For the Tec 352 project, some of the same issues as the previous year of not following compositional strategies when completing a magazine style layout. In the class we focus more on the technical specifications of layouts. More time will be spent on basic composition learned by students in previous classes.
3. Participate productively in a range of graphic production processes, including printing (litho, flexo, digital), ePublishing, and website development.	(a) 96% (b) 92%	5.0	4.3	2.7	
4. Employ a technology management skill set, including project management, quality control, and business practices.	(a) 95% (b) 100% pass rate	5.0	4.6	3.3	In Tec 350, we tried a unique project with the entire class creating the Reggie mascot out of paperboard. In the future unique projects like this will be smaller groups.
5. Learn independently within the context of the graphic communications discipline.	(a) 93%	5.0	4.8	3.3	
6. Solve problems within the context of the graphic communications discipline.	(a) 88%	4.8	4.8	3.3	

Dept. of Technology 2023-2024 Learning Outcomes: B.S. Graphic Communications Technology

<p>Graphic Communications Performance Benchmarks: 80% average on major integrative assignments.</p>	<p>Action benchmark for Survey Data < 3.5/5.0 scale.</p>	<p>Action benchmark for Employer Data < 75% “meets expectations” or above.</p>
<p>#1 (a) Compositional Shooting Project related to image editing, layout, and DAM (TEC 253) #2 (a) Omni-publishing production project related to print and mobile magazine layout (TEC 358) (b) Integrative pre-press project (TEC 352); #3 (a) Omni-publishing production project related to WordPress website and Google News app (TEC 358) (b) Flexographic label printing (TEC 257) #4 (a) Packaging project related to project management (TEC 350); (b) Idealliance Print Planning & Estimating Certification Exam (TEC 354)] #5 (a) Entrepreneurial Feasibility Study (TEC 356) #6 (a) Tabletop POP (TEC 257)</p>	<p>5 – well above average 4 – above average 3 – average 2 – below average 1 – well below average</p>	

Dept. of Technology 2023-2024 Learning Outcomes: B.S. Sustainable & Renewable Energy

	Direct Measurements	Indirect Measurements			
Sustainable and Renewable Energy Learning Outcomes The graduate will be able to:	*Performance Criteria Evaluation	Employer Survey 2015 - 2021 (employers n=13, alumni n=15)	Senior Survey (n=5, Fall 2023/Spring 2024) (1.0 - 5.0 scale)	Alum Survey (n=5, 2015, 2016, 2017) (1.0 - 5.0 scale)	Planned Curricular Actions for Improvement (2024-2025)
1. Describe the physical laws and resources that constrain our energy systems.	(a) 83.4% (b) 69.3%	13 meets expectations 2 N/A	4.4	4.8	Non-SRE majors performed poorly in TEC160.
2. Define the operation of RE systems in terms of basic electrical and physical principles.	(a) 99% (b) 95.4% (c) 80.6% (d) 70.9% (e) 70.6%	13 meet expectations 1 below expectations 1 N/A	4.8	4.4	One student in TEC 258 and TEC 259 did not complete the assignments which lowered the average scores. RE faculty will encourage all students to complete the assignments.
3. Apply basic business, economic, and technical management principles in a variety of technical and non-technical contexts.	(a) 87.5% (b) 80.5%	14 meet expectations 1 below expectations	4.4	4.2	
4. Explain and defend their positions on energy/political/social issues.	(a) 99%	12 meet expectations 3 N/A	4.8	4.8	
5. Design residential and commercial solar photovoltaic (PV) systems using renewable energy software	(a) 86.6% (b) 86%	7 meets expectations 8 N/A	4.8	3.0	
6. Analyze wind data using professional software.	(a) 78.8% (b) 82.1	3 meets expectations 12 N/A	4.8	3.2	
7. Optimize renewable energy business decision-making.	(a) 94%	11 meets expectations 4 N/A	4.6	3.6	
8. Develop a business case for a commercial RE project.	(a) 97%	12 meets expectations	4.6	4.0	

Dept. of Technology 2023-2024 Learning Outcomes: B.S. Sustainable & Renewable Energy

		1 below expectations 2 N/A			
*Performance Benchmarks		Action benchmark for Survey Data < 3.5/5.0 scale	Action benchmark for Employer Data < 75% “meets expectations” or above		
Performance criteria: at least 80% average in each category #1(a) Final Grade (TEC259); (b) TEST#1 (TEC160) #2(a) TEC 160 Assignment #3; (b) TEC 160 Assignment #5; (c) Average of TEC 259 Assignments #13 - #18; (d) PV Workstation Labs – average score (TEC258); (e) Wind Tunnel Lab (TEC258) #3(a)TEC 262 Assignment #2; (b) TEC 262 Assignment #4 #4(a) TEC 160 Case Study Presentation #5(a) TEST#2 (TEC260) (b) TEST#3 #6(a) TEST#4 Wind Data Assessment (TEC260); (b) Model Wind Turbine Project (TEC258) #7 (a) TEST#4 (TEC260) #8 (a) Final Grade (TEC 360)		5 – well above average 4 – above average 3 – average 2 – below average 1 – well below average			

Dept. of Technology 2023-2024 Learning Outcomes: B.S. Technology & Engineering Education

	Direct Measurements	Indirect Measurements			
Technology & Engineering Education Learning Outcomes The graduate will be able to:	*Performance Criteria Evaluation	*Performance as Classroom Teacher (2017, 2018) ISBE Overall Evaluation Data.	Senior Survey (n=8, Fall 2023/Spring 2024) (1.0 - 5.0 scale)	Alum Survey (No TEE graduates responded 2015, 2016, 2017)	Planned Curricular Actions for Improvement (2024-2025)
1. The Nature of Technology Technology and Engineering teacher education program candidates develop an understanding of the nature of technology within the context of the <i>Design World</i> .	(1) 100% TEC 101 (n=13) (2) 100% Pass (n=11)	12/12 meets expectations	4.8	N/A	No curricular changes planned.
2. Technology and Society Technology and Engineering teacher education program candidates develop an understanding of technology and society within the context of the <i>Designed World</i> .	(1) 100% TEC 101 (n=13) (2) 100% Pass (n=11)	12/12 meets expectations	4.6	N/A	No curricular changes planned.
3. Design Technology and Engineering teacher education program candidates develop an understanding of design within the context of the <i>Designed World</i> .	(1) 100% TEC 303 (n=8) (2) 100% Pass (n=11)	12/12 meets expectations	4.9	N/A	No curricular changes planned.
4. Abilities for a Technological World Technology and Engineering teacher education program candidates develop abilities for a technological world within the contexts of the <i>Designed World</i> .	(1) 100% TEC 305 (n=9) (2) 100% Pass (n=11)	12/12 meets expectations	4.6	N/A	No curricular changes planned.
5. The Designed World Technology and Engineering teacher education program candidates develop an understanding of the <i>Designed World</i> .	(1) 100% TEC 303 (n=8) (2) 100% Pass (n=11)	12/12 meets expectations	4.9	N/A	No curricular changes planned.

Dept. of Technology 2023-2024 Learning Outcomes: B.S. Technology & Engineering Education

6. Curriculum Technology and Engineering teacher education program candidates design, implement, and evaluate curricula based upon the <i>Standards for Technological Literacy</i> .	(3) CCAST 100% Pass (n=5). (2)100% Pass (n=11)	12/12 meets expectations	4.8	N/A	No curricular changes planned.
7. Instructional Strategies Technology and Engineering teacher education program candidates use a variety of effective teaching practices that enhance and extend learning of technology.	(3) CCAST 100% Pass (n=5). (2)100% Pass (n=11)	12/12 meets expectations	4.6	N/A	No curricular changes planned.
8. Learning Environments Technology and Engineering teacher education program candidates design, create, and manage learning environments that promote technological literacy.	(3) CCAST 100% Pass (n=5). (2)100% Pass (n=11)	12/12 meets expectations	4.9	N/A	No curricular changes planned.
9. Students Technology and Engineering teacher education program candidates understand students as learners, and how commonality and diversity affect learning.	(3) CCAST 100% Pass (n=5). (2)100% Pass (n=11)	12/12 meets expectations	4.6	N/A	Continue to expand student opportunities to work with students in a variety of real-world settings.
10. Professional Growth Technology and Engineering teacher education program candidates understand and value the importance of engaging in comprehensive and sustained professional growth to improve the teaching of technology.	(3) CCAST 100% Pass (n=5). (2)100% Pass (n=11)	12/12 meets expectations	4.6	N/A	Encourage students to engage in professional opportunities (conferences, workshops, etc.)
*Performance Benchmarks: (1) Course Grades – Pass Rate (2) Teacher Licensure Exams (T&EE Content) – Students may have taken more than once. (3) CCAST Assessment (4) Student Teaching			Action benchmark for survey data < 3.5/5.0 scale		5 – well above average 4 – above average 3 – average 2 – below average 1 – well below average

Dept. of Technology 2023-2024 Learning Outcomes: M.S. in Technology

	Direct Measurements		Indirect Measurement	
M.S. Technology Learning Outcomes The graduate will be able to:	Course Experience	Comprehensive Experience	ISU Alumni Survey (n= 9, 2015, 2016, 2017) 1.0 - 5.0 scale	Planned Curricular Actions for Improvement (2024-2025)
1. Approach problems and challenges in a systematic way	Major Project in Research methods course. 100% pass rate (N=46)		4.1	No action at this time. Objective and self-report measures all positive.
2. Understand trends, issues and developments in area of specialization		Either write a research paper, complete culminating coursework experience, participate in TEC 404 or 400 or engage in an internship (n=54)	4.3	No action at this time. Objective and self-report measures all positive.
3. Demonstrate professional written and oral communication skills	Writing (including writing across disciplines and professional theme-based writing) has become a major part in the curriculum as demonstrated in writing Intensive courses such as: TEC 497 and TEC 430		4.2	No action at this time. Objective and self-report measures all positive.
4. Effectively use current techniques and technologies of specialization	Students apply state of the art software and technologies in specific areas of concentration. Specifically, statistics software and simulation software	Specialized external certifications	4.1	No action at this time. Objective and self-report measures all positive.
5. Function as a leader in your field		Student engaged in internship opportunity (n=22)	4.4	No action at this time. Objective and self-report measures all positive.
6. Understand, evaluate and apply appropriate research	All students engage in technical and academic writing in the core classes of the program.		4.1	No action at this time. Objective and self-report measures all positive.
Direct Measurement Performance Benchmark: 90% first time pass rate				

Program Goal Reports

Computer Systems Technology
Construction Management
Engineering Technology
Graphic Communications Technology
Sustainable & Renewable Energy
Technology & Engineering Education
Graduate Program

Department of Technology
Program Goals and Plan of Work (2023-2024)
B.S. in Computer Systems Technology

Mission: The mission of the program is to support the workforce needs of businesses developing or utilizing computer-related technology while enhancing critical thinking and professional skillsets of students.

<i>CST Goals</i>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2023-2024</i>	<i>Report on POW 2023-2024</i>
1. Provide students with high quality educational experiences by featuring a modern, up-to-date curriculum that will develop technical knowledge and skills, and an understanding of project management while fostering attitudes necessary for successful professional roles in computer systems technology.	<i>Educate Connect</i> <i>Elevate Illinois</i> State Goal #1, 2 CAST Strategic Plan Goal #1 TEC Department Goal #1	a. Maintain strong business and industry input to program curricula and facilities decision making. b. Maintain high quality curriculum and instruction. c. Maintain a high quality teaching laboratory to deliver program courses.	a. Program faculty meet regularly to review and update curriculum and teaching/learning facilities. b. Convene a CST Advisory Board Meeting in spring of each academic year. c. Conduct survey of graduating students, alums, and employers of graduates of the program to seek their feedback for program update. d. Conduct an annual CST program review for internal purposes. e. Submit the paperwork for the ABET accreditation. f. Conduct the inaugural CST Symposium	a. The program faculty met monthly to discuss curriculum and teaching updates. The discussions included changing some course names and descriptions to be aligned with the current course content. b. The CST Advisory Board Meeting was convened in Spring 2024, and we got valuable feedback from the board members. c. We continued conducting surveys of graduating students. d. We conducted and submitted documentation for CST program review for internal purposes. e. The program faculty also discussed changing to the ABET's Computing Accreditation Commission (CAC) accreditation. The university already has the accreditation form CAC. We resolved to join the Next General Review (NGR) for CAC programs during the 26-27 review cycle. f. We had the inaugural CST Symposium in Spring 2024, and it was well attended by students and faculty members. Three students presented their research ideas.
2. Recruit and graduate a diverse group of individuals to support the computer technology businesses in Illinois and throughout the United States.	<i>Educate Connect</i> <i>Elevate Illinois</i> State Goal #3 CAST Strategic Plan Goal #1, 6 TEC Department Goal #1	a. Maintain sustainable enrollment in the CST program at ISU. b. Promote the program to diverse audiences of potential students. c. Promote scholarships to existing and potential students.	a. Continue to participate actively in Dept. Showcase and other recruiting events that bring high-school students, teachers, and counselors to campus. b. Establish communication with high school and community college instructors with the goal of recruiting students. c. Participate in recruiting events within ISU to facilitate internal transfers. d. Promote CST program to business and industry through alums of the program for support—probably to subsidize student membership in professional organizations	a. Efforts were made to promote STEM education in local high schools and to encourage underserved students to enroll. Additionally, female students were encouraged to participate in technology-related programs. We worked with other programs in the Technology department to increase female student participation.
3. Provide opportunities for students to interface with businesses either developing or utilizing computer-related technology and services.	<i>Educate Connect</i> <i>Elevate Illinois</i> State Goal #2, 4 CAST Strategic Plan Goal #1, 6 TEC Department Goal #3	a. Facilitate events that promote student interaction with businesses. b. Forge relationships with computing-related personnel in businesses.	a. Faculty invite business professionals into the classroom. b. Faculty visit with businesses who are hiring computer-related majors during ISU career events. c. Faculty encourage students to attend ISU career events. d. Work with the IEEE Club to bring professionals from the industry as guests	a. Faculty members invited different professionals to come to the classroom to talk to students about their experiences. Some of the professionals were from Red Hat Linux, Microsoft, and Chervon. The Chief Information Officer from the university's Central Information Technology area came to talk to students about the ever-increasing security challenges they notice in their line of work. b. Some CST Board members also came to our classes to talk to students about how their work experiences. c. The faculty encouraged students to attend ISU's career events.

				<p>d. We continued collaborating with student leaders in the IEEE Club to invite industry professionals to share their experiences and insights with club members, fostering valuable connections and real-world learning opportunities.</p>
<p>4. Provide service to the computing field through applied research, consulting, and participation in professional organizations.</p>	<p><i>Educate Connect Elevate Illinois</i> State Goal #2, 4</p> <p>CAST Strategic Plan Goal # 3, 4</p> <p>TEC Department Goal #2</p>	<p>a. Tenured or tenure-track faculty will engage in applied research.</p> <p>b. Tenured or tenure-track faculty members will maintain participation and leadership in relevant professional organizations.</p> <p>c. Promote student participation in professional organizations and community service activities.</p>	<p>a. Tenured or tenure-track faculty continue to present and publish applied research.</p> <p>b. Tenured or tenure-track faculty maintain membership in and serve in leadership roles in relevant professional organizations.</p> <p>c. Tenured or tenure-track faculty continue to promote student membership and involvement in relevant professional organizations.</p> <p>d. Tenured or tenure-track faculty continue to promote student involvement in undergraduate research and publications</p>	<p>a. The tenure-track faculty presented and published articles in the following proceedings: Association of Computing Machinery, The International Conference on Software Engineering and Information Management, and International Institute for Applied Knowledge Management</p> <p>b. Tenure-track faculty have maintained memberships in the Association of Computing Machinery (ACM). Additionally, they have also served as program committee members and reviewers for several peer-reviewed journals including Information and Computer Security (ICS) and Informing Science Institute.</p> <p>c. The faculty continued to encourage and promote student membership in the IEEE Student Club. The forums used to promote student memberships included classrooms, emails, and open house events.</p> <p>d. Tenure-track faculty actively engaged with students to encourage participation in undergraduate research, resulting in four students receiving funding through the FIREbird grant program. Additionally, three students achieved significant milestones with their research findings accepted for publication in international journals, showcasing the program's emphasis on academic excellence and research innovation.</p>

Department of Technology
Program Goals and Plan of Work (2023-2024)
B.S. in Construction Management

Mission: Our mission is to be a “first choice” provider and center for construction education.

<u>CM Goals</u>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2023-2024</i>	<i>Report on Plan of Work 2023-2024</i>
<p>1. Student Learning Outcomes: Continually improve the curriculum and provide students with high quality educational experiences that will develop technical and managerial knowledge and skills necessary for successful leadership roles in the construction industry.</p>	<p>[<i>Educate-Connect-Elevate</i> 2018–2023]</p> <p>1. Enhance Strength and Stability</p> <p style="padding-left: 20px;">a. Ensure strong enrollment and student success.</p> <p>3. Nurture Diversity and Inclusion</p> <p style="padding-left: 20px;">c) Advance learning experiences that help faculty, staff, and students succeed in a global society</p> <p>[CAST 2019-2024]</p> <p>1. Integrate relevant applied learning and technologies to provide an exemplary educational experience focusing on individual goals for both undergraduate and graduate students.</p> <p>[TEC 2019-2024]</p> <p>1. Provide state-of-the-art applied learning environments for undergraduate and graduate students in high-demand disciplines.</p>	<p>a. Continuously improve the CM learning experiences for students and link program content closely to industry.</p> <p>b. Maintain an effective advisory board focused on continuous program improvement.</p> <p>c. Encourage all graduating seniors to acquire industry credentials such as AC and OSHA 30 hours training.</p> <p>d. Continuously improve the curriculum in alignment with ACCE standards.</p> <p>e. Encourage faculty and industry board members to attend professional meetings and accreditation visits to learn the latest in industry and academia</p>	<p>a. Incorporate new construction paradigms, technologies, and methods into existing courses (Faculty): Seeking funding for a 3D scanner and incorporating the related technology in the TEC 217 class (Xie).</p> <p>b. Conduct employer and senior surveys (Solanki).</p> <p>c. Provide research and unconventional learning opportunities to complement traditional education (Faculty).</p> <p>d. Arrange project tours and guest lectures (Faculty).</p> <p>e. Continue to evolve the Advisory Board to reflect the industry on a National and global scale representing industry insight that can guide the CM program to mold students best prepared to meet the challenges of today and adapt to the ever changing industry as they face the innovations of the future (Faculty).</p> <p>f. Explore new innovative curriculum, adaptable to the quick and dramatic changes in the industry and the revised ACCE outcomes for incorporation into next catalog (Faculty).</p> <p>g. Actively participate in ACCE meetings, committee/ accreditation activities. Faculty members attend ACCE meetings for accreditation training (Faculty).</p>	<p>a. All 17 Students Learning Outcomes were directly assessed in various CM courses. The direct assessment results were incorporated in CM learning outcomes assessment. (Faculty).</p> <p>b. Organized field trip to United Contractors Midwest asphalt plant and Roanoke ready-mix concrete plant in TEC 292 (Solanki); Organized guest lecture of Mr. Sean Roche (Sales Manager, Tensar) in TEC 224 (Solanki). Organized guest lecture for TEC 329 by Mark Jewell (Wall Street Journal Best-Selling Author).</p> <p>c. Both the employer survey (18 responses) and senior exit survey (32 responses) were administered, and the result was incorporated in the CM learning outcome assessment (Solanki)</p> <p>d. At the end of Spring 2024, the Research Allocation Plan (RAP) proposal was approved by the Department of Technology for funding for a Trimble 3D laser scanner, which was incorporated in the TEC 217 class. This effort aligns with the program's education strategy by enhancing the Construction Management learning experience with advanced industry technology and ensuring curriculum improvement in line with ACCE standards. (Xie)</p> <p>e. The Advisory Board includes members from diverse backgrounds including regional/national contractors and representatives from different trades/sectors in the construction industry (Faculty)</p>
<p>2. Recruitment and Retention: Recruit and graduate a diverse, high-quality cohort of individuals into the program to support the construction industry in economic development in Illinois and throughout the United States.</p>	<p>[<i>Educate-Connect-Elevate</i> 2018–2023]</p> <p>1. Enhance Strength and Stability</p> <p style="padding-left: 20px;">a) Attract and retain exceptional faculty and staff.</p> <p>2. Foster Innovation</p> <p style="padding-left: 20px;">a) Support academic program offerings to meet enrollment demand in current and emerging fields of study.</p> <p>3. Nurture Diversity and Inclusion</p> <p style="padding-left: 20px;">a) Enhance diversity of faculty, staff, and student populations across the inclusion spectrum.</p> <p style="padding-left: 20px;">b) Invigorate the campus community by providing a welcoming and inclusive environment.</p> <p>4. Enrich Engagement</p> <p style="padding-left: 20px;">a) Foster partnerships offering collaborative and mutually beneficial opportunities.</p> <p>[CAST 2019-2024]</p> <p>2. Foster a cohesive culture of diversity, inclusion, and equity that reaches all our students, faculty, and staff.</p> <p>4. Develop and maintain productive relationships with external constituencies.</p> <p>[TEC 2019-2024]</p>	<p>a. Host career fairs and other promotional events.</p> <p>b. Promptly distribute job and internship opportunity announcements to students.</p> <p>c. Collaborate with other majors and RSO's.</p>	<p>a. Maintain community colleges-articulation agreements (Solanki).</p> <p>b. Host two Construction Management career fairs during the year (Fall and Spring semesters), (Jacobs & Solanki) and provide opportunities for employers to visit throughout the year (Faculty).</p> <p>c. Distribute information on jobs, internships, scholarship, and CMSA activities in a timely fashion (Faculty).</p> <p>d. Connect employers and alumni in CM fields and share job related information with students. (Faculty)</p>	<p>a. Updated community colleges-articulation agreements as needed (Solanki).</p> <p>b. Career fairs were hosted both in Fall and Spring with 57 (Fall) and 52 (Spring) employers and around 122 (Fall) and 122 (Spring) students. (Jacobs and Solanki).</p> <p>c. Distributed information on jobs, internships, scholarship, and CMSA activities in a timely fashion through class announcement, email, and Facebook (Faculty).</p>

	4. Promote a culture of respect and inclusion among faculty, staff, and students.			
<p>3. Professional Development: Provide students with educational experiences necessary skills to successfully function in professional leadership roles in the construction industry and provide service to the construction industry through applied research, consulting/workshops, and participation in professional organization.</p>	<p>[Educate-Connect-Elevate 2018–2023]</p> <p>2. Foster Innovation</p> <p>b) Support advancement of research, creative works, and knowledge generation.</p> <p>3. Nurture Diversity and Inclusion</p> <p>c) Advance learning experiences that help faculty, staff, and students succeed in a global society.</p> <p>4. Enrich Engagement</p> <p>b) Involve more faculty, staff, and students in outreach, engagement, and research opportunities locally, regionally, and globally.</p> <p>c) Deepen student engagement in activities that prepare them for lifelong learning and success</p> <p>[CAST 2019-2024]</p> <p>3. Support a workplace that facilitates and rewards faculty and staff excellence.</p> <p>4. Develop and maintain productive relationships with external constituencies.</p> <p>[TEC 2019-2024]</p> <p>2. Support and reward faculty and staff excellence.</p> <p>4. Enhance the effectiveness of the Department by strengthening engagement.</p>	<p>c. Maintain active student chapters that promote high levels of student interaction with industry.</p> <p>d. Tenure-Track/ Tenured faculty contribute at least 2 professional presentations and/or publications (including books, book chapters) annually.</p> <p>e. Provide industry workshops as appropriate (e.g. MCA, Laborers, Green Building training, etc.).</p>	<p>a. Facilitate student-led organizations and activities [CMSA:]</p> <ul style="list-style-type: none"> • CMSA Meetings – Monday monthly • CMSA Executive Board Meetings - monthly. • CMSA field trips – 1 or 2 per -year • MCAA and NECA meetings for travel & competition work • MCAA Education Conference • ASC Region 3 Conference and Student Competition (Commercial/ /Preconstruction), Downers Grove, IL. • NECA student competition • NAHB student competition • ACI student competition (Solanki) <p>b. Conduct applied research and professional development opportunities (CM Faculty).</p> <p>c. Connect with professional associations by attending their meetings (CM Faculty).</p>	<p>a. Student-led organizations and activities were facilitated (Faculty). CMSA Meetings – 2nd Mondays 6:30 pm monthly (Jacobs) Many Industry Partners as guest speakers throughout the year CMSA Board Meetings – monthly (Jacobs) CMSA Field Trips – 1 – 2 per year</p> <p>10-27-23 O’Shea Builders Site Visit Springfield Lanphier HS Addition & Renovations \$90 million project (11) CM Students Attended, Max Dirker & Bryce Gibson hosted the tour (both CM alums)</p> <p>4-5-24 Pepper Construction Site Visit \$66 million project Gorilla-Primate Exhibit at Brookfield Zoo Hosted by Connor Lortz & Adam Wenburg (both CM alums) (14) students attended; Adam was able to relay items on the Shedd Aquarium Project he is assigned to well over a \$200 million project</p> <p>4-5-24 Buitech hosted an additional site visit on the same day for students at a QuikTrip under construction in Romeoville, IL (14) students attended</p> <p>NECA National Convention (4 days) in Philadelphia, PA Attended by team members Liam McCafferty, Marc Alejandro, Dawson Fallaw and Stone Sowa</p> <p>MCAA Student Summit hosted (3 days) in Milwaukee, WI Attended by team members Miriam Zappa, Alexis Britton, Kacper Tomczyk and Colin Koester</p> <p>MCAA National Convention hosted (4 days) in Orlando, FL Attended by team members Miriam Zappa, Alexis Britton, Kacper Tomczyk, Ben Winkler and Yaseen Mohammed; along with Mr. Jacobs</p> <p>NRCA – National Roofing Contractors Association Convention was attended by (5) team members in Las Vegas, NV where they presented; Tyler Mathiesen, Braeden Gagliano, Daniel Ogden, Mathew Frerichs, Jordan Seal. Their project was neat they created a proposal for the new F-1 complex in Las Vegas.</p> <p>NAHB Team is Back andy they attended the National Convention in Las Vegas, NV along with Mr. Jacobs those (5) members were Marc Alejandro, Danny Cervantes, Gabe Flores, Abbie Bouc, David McBrearty and Alexis Britton</p> <p>Two teams (Commercial and Heavy-civil) participated in ASC region 3 competition and the Commercial competition team took the second place.</p> <p>b. Conducted applied research and professional development activities (CM Faculty) 7 refereed journal articles, 9 refereed conference proceedings, 7 presentations</p> <p>c. Students attended meetings for professional associations. (Jacobs Above)</p>

<p>4. Internal and External Funding Support: Through a combination of internal and external resources, maintain the funding necessary to support CM Program activities.</p>	<p>[<i>Educate-Connect-Elevate 2018-2023</i>] 3. Enhance Strength and Stability c) Strengthen financial position 4. Enrich Engagement a) Foster partnerships offering collaborate and mutually beneficial opportunities.</p> <p>[CAST 2019-2024] 4. Develop and maintain productive relationships with external constituencies.</p> <p>[TEC 2019-2024] 4. Enhance the effectiveness of the Department by strengthening engagement.</p>	<p>a. Promote and maintain multiple ways for industry to connect with and support the program.</p>	<p>a. Evolve CM Annual Industry Partnership program. (Faculty). b. Host the CMSA Golf Outing on the last Friday of April to maintain personal connections with CM alumni and industry leaders with proceeds to support the CM endowments (Jacobs). c. Monitor and promote CM Scholarships, both at the TEC website and other regular and ongoing scholarships (Faculty) d. Maintain ISU CM Alumni group on Facebook to keep alumni engaged and share job openings for experienced candidates (Jacobs).</p>	<p>a. CM Industry Partnership had 16 partners (>\$2,000) for 2023-24 (Faculty). b. Hosted the CMSA Golf Outing the last Friday of April to maintain personal connections with CM alumni and industry leaders with proceeds to support the CM endowments (Jacobs). c. Monitored and promoted CM Scholarships through e-mails, TEC website, student-shared drive and during classes. (Faculty) d. Maintained ISU CM Alumni group on Facebook to keep alumni engaged and share job openings for experienced candidates. CM program Facebook is updated regularly for successful interacting with Alums and current students. (Faculty).</p>
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Department of Technology
Program Goals and Plan of Work (2023-2024)
B.S. in Engineering Technology

Mission: The mission of the program is to prepare technically-oriented managerial professionals and leaders for business, industry, government, and education by articulating and integrating student experiences and core competencies in engineering technology

<i>ET Goals</i>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2023-2024</i>	<i>Report on POW 2023-2024</i>
1. Provide students with high quality educational experiences by featuring a modern, up-to-date curriculum that will develop the technical and managerial knowledge, skills, and attitudes that are foundational to success as ET professionals	<i>ISU - Educate, Connect, Elevate</i> Goal I. <i>CAST Strategic Plan</i> Goal I & II. <i>TEC Department</i> Goal 1.	a. Maintain strong industry input to program curriculum decision making. b. Maintain high quality curriculum and instruction. c. Maintain modern ET labs. d. Maintain highly qualified faculty.	a. Conduct a least one advisory board meeting in the 2023/2024 school year. b. Measure student performance for outcomes assessment and revise instruction as needed. c. Attend professional development events, including ASEE regional and national conferences, ATMAE national conference, and industry trade shows. d. Update a 5-year equipment and facility plan and seek funding to modernize software and equipment. e. Work with the CAST office to pursue equipment donation opportunities. f. Submit readiness report and self-study report for ABET g. Recruit a new tenure track faculty	1. Advisory meeting was held in Feb 2024 2. Measured student outcomes as per the assessment schedule 3. Faculty attended various conferences including ASEE 4. Updated equipment and purchased materials for the lab, major updated was the CMM 5. Submitted ABET self-Study, and had a successful ABET visit Hired a tenured faculty, Dr. Ali Barenji
2. Recruit and graduate a diverse group of individuals to support companies and organizations that will employ ET professionals in Illinois and throughout the United States.	<i>ISU - Educate, Connect, Elevate</i> Goal I & III <i>CAST Strategic Plan</i> Goal I & II <i>TEC Department</i> Goal 1 & 3	a. Maintain sustainable enrollment in the ET Program at ISU. b. Promote the program to diverse audiences of potential students. c. Promote industry-sponsored scholarships to existing and potential students.	a. Update the department Website focusing on developing attractive images of the ET labs. b. Post appropriate scholarship opportunities and support student efforts for scholarship awards. c. Pursue opportunities to interact with K-12 students and teachers. d. Monitor ET enrollments.	a. The ET pages on the department website were updated. b. Scholarship opportunities were advertised by email and personal contact with our students. c. IDEA competition was hosted by ET faculty members. Area elementary school students visited the robot and RE labs. d. ET applications and admissions were closely monitored.
3. Provide opportunities for students to interface with ET professionals.	<i>ISU - Educate, Connect, Elevate</i> Goal IV <i>CAST Strategic Plan</i> Goal I & II. <i>TEC Department</i> Goals 1 & 4.	a. Facilitate events that promote student and faculty interaction with industry. b. Promote internship opportunities for ET students. c. Create and maintain relationships with companies and personnel that employ ET professionals.	a. Promote student involvement in the ET student organization. b. Promote student attendance at industry trade shows. c. Organize field trips to applicable companies. d. Invite ET professionals to visit classes. e. Maintain and establish new contacts with potential employers. f. Encourage students to pursue and secure internships. g. Help students locate internships/temporary job opportunities.	a. Students were encouraged to participate in the ET club. b. Trade shows were announced in several classes went on a field trip to IMTS 2024 c. TEC234 did tour Rivian. d. TEC345 & TEC263 had a guest speaker, Top management and recruiters from CAT Decatur facility visited ET club, TEC 392 class in Spring and held discussions with faculty e. ET faculty maintain regular contact with many employers. f. Students are being encouraged to get work experience. Student work experience is being verified as a prerequisite to TEC392. g. Emails are sent to the ET list serve announcing internship opportunities. Students were also encouraged to attend the ISU career fairs.

<p>4. Provide service to companies and organizations that employ ET graduates through applied research, consulting/workshops, and participation in professional organizations.</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal IV</p> <p><i>CAST Strategic Plan</i> Goals IV</p> <p><i>TEC Department</i> Goals 2 & 4</p>	<p>a. Tenured or tenure-track faculty will engage in research and technology transfer activities that supports the industry.</p> <p>b. Tenured or tenure-track faculty members will maintain participation and leadership in relevant organizations, boards, or committees.</p> <p>c. Promote student organization participation in industry or community service activities.</p>	<p>a. Promote graduate assistantships to assist with faculty research and ET instruction.</p> <p>b. Conduct scholarly activities such as publishing peer reviewed manuscripts and completing research.</p> <p>c. Provide leadership in professional organizations.</p>	<p>a. ET students are encouraged by ET faculty to consider enrolling in the TEC MS program.</p> <p>b. Drs. Branoff, Dr. Williams presented at ASEE.</p> <p>c. Mr. Williams and Mr. Blunier are on the board of directors for IDEA. Mr. Blunier is on the board of directors for ITEA. Dr. Mohammed is a councilor at large with Illinois Academy of science</p>
<p>5. Maintain industry and ET alumni relationships in support of the Program.</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal IV</p> <p><i>CAST Strategic Plan</i> Goals IV</p> <p><i>TEC Department</i> Goals 2 & 4</p>	<p>a. Maintain information distribution to alums through the department newsletter and website.</p> <p>b. Encourage participation of ET alumni in homecoming events.</p> <p>c. Establish relationships with companies who employ ET professionals.</p> <p>d. Provide avenues for internship and graduate recruitment.</p>	<p>a. Contribute information to the Department Blog and ET website.</p> <p>b. Develop active participation with related companies.</p> <p>c. Investigate revised procedures to help students locate internships/temporary job opportunities.</p>	<p>a. ET events and news were forwarded to Tec personnel to be posted. ET LinkedIn page is active</p> <p>b. ET faculty members maintain personal contact with industry contacts.</p> <p>c. This task is ongoing.</p>

Department of Technology
Program Goals and Plan of Work (2023-2024)
B.S. in Graphic Communications Technology

Mission: The mission of the Graphic Communications program is to support the human resource needs of the graphic communications industry while fostering the intellectual growth and professional development of students.

<i>GC Goals</i>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2023-2024</i>	<i>Report on POW 2023-2024</i>
1. Provide students with high quality educational experiences by featuring a modern, up-to-date curriculum that will develop the technical and managerial knowledge, skills, and attitudes necessary for successful professional roles in the graphic communications industry.	<p><i>ISU - Educate, Connect, Elevate</i> Goal I.</p> <p><i>CAST Strategic Plan</i> Goals I & II.</p> <p><i>TEC Department</i> Goal 1.</p>	<p>a. Maintain strong industry input to program curriculum decision making.</p> <p>b. Maintain high quality curriculum and instruction.</p> <p>c. Maintain a cutting edge graphic communications lab.</p> <p>d. Maintain highly qualified faculty.</p>	<p>a. Update curriculum to incorporate the new hybrid press into projects in multiple classes, along with the dye sublimation printer.</p> <p>b. Assemble and conduct an advisory board meeting in Spring 2024 semester. Share information with the advisory board throughout the rest of the year, including this plan of work.</p> <p>c. Prepare and encourage students to take these certifications: Idealliance Print Planning & Estimating Digital Printing certification (TEC 354), Idealliance Fundamentals in Color Management Certification (TEC 353).</p> <p>d. Update curriculum in Tec 352 to include HP SmartStream for teaching the concepts of imposition.</p> <p>e. Updating curriculum in TEC 353 to include expanded color gamut (ECG) printing utilizing extended color management technology.</p> <p>f. Looking at workflow and space utilization in the lab to better utilize the space available and organize supplies/tools.</p> <p>g. Exploring options for acquiring an automatic screen-printing press to further our abilities within the program and better align with industry standards.</p> <p>h. Explore the options of acquiring a digital storefront software to create e-commerce sites.</p> <p>i. An update to color management devices in the lab will be requested.</p> <p>j. Measure student performance for outcomes assessment 2023/2024 and revise instruction as needed.</p> <p>k. Conduct an employer survey in Summer 2024 to assess graduate performance according to program learning outcomes.</p> <p>l. Faculty development by attending professional development events, including Printing UNITED, FTA/InfoFlex, GCEA, TAGA and Label Expo.</p>	<p>a. Dye sublimation was used in all TEC 150 courses. Students began using the hybrid press in Tec 150, Tec 257, and Tec 350.</p> <p>b. Advisory board meeting was held on April 19th.</p> <p>c. All students in TEC 354 for F23 took and passed the certification exam. All students in TEC 353 for S24 took the certification exam with a 91% pass rate.</p> <p>d. We received 25 free licenses for HP SmartStream. It has been held up in purchasing with ISU for over nine months</p> <p>e. ECG has been added into the curriculum and management tools have been extended to incorporate digital press optimization, and utilization of icc profiles across devices.</p> <p>f. With the help of TEC 354, work was done to arrange the lab in a more efficient manner, clean up/out old and outdated equipment, and prep a dedicated screen coating area for screen printing.</p> <p>g. Thus far an automatic screen-printing press seems out of our budget and capabilities. Still looking into options for donations or grant funding to help with a purchase.</p> <p>h. Working with a company called Pressero to acquire the software for students. Currently meeting with the COO and have a demo account and training in a “sandbox” account.</p> <p>i. We acquired new spectrophotometers as well as a new spectrodensitometer to improve color management practices in our labs.</p> <p>j. Completed. Modified some projects in Tec 152 and Tec 253.</p> <p>k. Conducting employer survey, only received two responses. Will work on acquiring more in the future.</p> <p>a. 1. Calkins attended the Printing United Expo in Atlanta, GA in F23, TAGA/Colour Conference in Dallas, TX in S24, GCEA in Alton, IL in Summer 24.</p>
1. Recruit and graduate a diverse group of individuals to support the graphic communications industry in Illinois and throughout the United States.	<p><i>ISU - Educate, Connect, Elevate</i> Goals I & III</p> <p><i>CAST Strategic Plan</i> Goals I & II</p> <p><i>TEC Department</i> Goals 1 & 3</p>	<p>a. Maintain sustainable enrollment in the GC program at ISU.</p> <p>b. Promote the program to diverse audiences of potential students.</p> <p>c. Promote industry-sponsored scholarships to existing and potential students.</p>	<p>a. Review and update existing 2+2 articulation plans.</p> <p>b. Post appropriate scholarship opportunities GLGA, FFTA, PGSF, Printing UNITED, TLMI and support students’ efforts for scholarship awards. Also, better promote departmental internal scholarships.</p> <p>c. Review existing database of relevant high school programs and update. Expand the database to adjacent states where students receive in-state tuition. Tec 358 students will update, create, print & mail volume two of our promotional magazine to high schools in Illinois and adjacent states.</p> <p>d. Provide in person tours to community colleges and high schools. Attend relevant community college and high school career fairs.</p> <p>e. Make multiple points of contact to all applicants to the GCT program.</p> <p>f. Work with admissions to better target potential students for the program</p>	<p>a. Have reached out to ICC and Harper College to try and update the 2+2. Next year I will recruit one of our advisors to assist.</p> <p>b. Students received over \$50,000 in scholarships from external organizations for the year. This includes PGSF, TLMI, FFTA, and Printing UNITED</p> <p>c. We have yet to expand to out of state options; funding and feasibility of sending more magazines may prohibit much expansion. TEC 358 completed volume 2, and it was successfully sent out to 50 schools this fall.</p> <p>d. Burke and GA Chloe attended Harper College Career Expo and BACC Career Expo. Morton East and West High Schools brought onto campus for tour and presentation</p> <p>e. GA Chloe reached out to applicants on multiple occasions mainly via text message. This year the response from applicants to her was good with multiple communications and questions answered.</p> <p>f. We did not meet with University advisors in this school year.</p>

<p>3. Provide opportunities for students to interface with the graphic communications industry.</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal IV</p> <p><i>CAST Strategic Plan</i> Goals I & II.</p> <p><i>TEC Department</i> Goals 1 & 4.</p>	<p>a. Facilitate events that promote student and faculty interaction with industry.</p> <p>b. Increase internship opportunities for GC students.</p> <p>c. Forge relationships with graphic communications companies and personnel. Provide avenues for graduate recruitment.</p>	<p>a. Burke and Calkins to invite alumni and industry professionals as speakers for multiple courses.</p> <p>b. Burke, Calkins, and students will participate in FTA InfoFlex, Printing UNITED Conference, TAGA, and Label Expo.</p> <p>c. Organize visitations to a wide variety of GC businesses.</p> <p>d. Make a focused effort to expand employment and internship opportunities for students.</p> <p>e. Compete in the Phoenix Challenge Competition, and GLGA print competition.</p> <p>f. Continue to revitalize the Registered Student Organization through production and community service activities.</p>	<p>a. Calkins had students in TEC 358 engage with two different alumni for interviews for “The Basement”. SPC and IMAGINE gave presentations to courses and interviewed students for internship opportunities.</p> <p>b. Calkins attended Printing UNITED Conference and TAGA. Burke attended Phoenix Challenge Competition; this year it was not in conjunction with FTA. But students toured Coca-Cola Headquarters and talked with members of the package design team.</p> <p>c. Calkins took TEC 354 students to tour Bopi in Bloomington, IL.</p> <p>d. One S24 graduate was the first hired at Bopi in recent years; we are working to open internship opportunities there for Summer 2025.</p> <p>e. Students competed in Phoenix Challenge Competition and won Best Concept.</p> <p>f. The RSO no longer exists. Student engagement couldn’t be maintained.</p>
<p>4. Provide service to the GC industry through applied research, consulting/workshops, and participation in professional organizations.</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal IV</p> <p><i>CAST Strategic Plan</i> Goal IV</p> <p><i>TEC Department</i> Goals 2 & 4</p>	<p>b. Tenured or tenure-track faculty will engage in research that supports the industry.</p> <p>c. Tenured or tenure-track faculty members will maintain participation and leadership in relevant organizations, boards, or committees.</p> <p>d. Promote Student organization participation in industry or community service activities.</p>	<p>a. Burke will participate in Printing UNITED, Label Expo, GCEA, GLGA, and FTA activities.</p> <p>b. Burke and Calkins will explore the option of hosting an in person GCEA Region One Spring conference.</p> <p>c. Burke will serve as Vice President of GCEA Region One and education liaison to the board of directors for GLGA.</p> <p>d. Calkins will attend and present at both the Technical Association for the Graphic Arts International Conference in March and the Color Conference.</p> <p>e. Calkins will attend and present at the GCEA conference.</p> <p>f. Calkins is collaborating with other graphic professionals at both Clemson University and Ball State University on separate graphics related studies with the goal of publication.</p> <p>g. Calkins will serve as a reviewer for the American Education Research Association conference.</p> <p>h. Calkins will serve as the VP of Education for the Technical Association of the Graphic Arts.</p> <p>i. The RSO will return to completing community service activities that have been dormant for a few years.</p>	<p>a. Calkins attended GCEA Annual Conference.</p> <p>b. There was no interest in holding a GCEA Region One conference this past year.</p> <p>c. Burke served as VP of GCEA Region One and still regularly attends GLGA Board Meetings</p> <p>d. Calkins attended and presented at both the TAGA and Color conferences in March.</p> <p>e. Calkins attended and had two presentations at the GCEA conference in July.</p> <p>f. Calkins had two conference presentations with peers at Clemson and Ball State and published one conference paper with a peer at Ball State.</p> <p>g. Calkins reviewed seven conference proposals for AERA.</p> <p>h. Calkins is currently serving on the advisory board for TAGA as well as in the role of VP of education effective March 24.</p> <p>i. The RSO ceased activity in April of 2024.</p>

Department of Technology
Program Goals and Plan of Work (2023-2024)
B.S. in Sustainable & Renewable Energy

Mission: The mission of the program is to prepare technically-oriented managerial professionals and leaders for business, industry, government, and education by articulating and integrating competencies in Renewable Energy

<i>SRE Specific Goals**</i>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2023-2024</i>	<i>Report on POW 203-2024</i>
1. Provide students with high quality educational experiences by featuring a modern, up-to-date curriculum that will develop the technical and managerial knowledge, skills, and attitudes that are foundational to success as SRE professionals.	<i>ISU - Educate, Connect, Elevate</i> Goal I. <i>CAST Strategic Plan</i> Goal I & II. <i>TEC Department</i> Goal 1.	a. Maintain strong industry input to program curriculum decision making. b. Maintain high quality curriculum and instruction. c. Maintain modern SRE equipment and lab. d. Recruit and maintain highly qualified faculty.	a. Conduct at least one advisory board meeting b. Jin Jo and Matt Aldeman will attend at least one energy related conference. c. SRE faculty will maintain and updated RE lab equipment.	a. One advisory board meeting was conducted in April 2024. b. Jin Jo and Matt Aldeman attended the ASEE conference (Energy Conversion and Conservation Division). c. The old batteries on the Solar Workstations in Turner 132 were replaced with new batteries. Heliodon was reprogrammed to be used in TEC 258.
2. Recruit and graduate a diverse group of individuals to support companies and organizations that will employ SRE professionals in Illinois and throughout the United States.	<i>ISU - Educate, Connect, Elevate</i> Goal I & III <i>CAST Strategic Plan</i> Goal I & II <i>TEC Department</i> Goal 1 & 3	a. Maintain enrollment in the SRE Program at ISU. b. Promote the program to diverse audiences of potential students.	a. SRE faculty will host prospective students and their families for tours and information sessions. b. SRE faculty will work with RES to promote the program at energy-related events. c. SRE faculty will advise students from AAMS in Denmark and promote the exchange program to RE students.	a. SRE faculty hosted tours and information sessions via a variety of TEC events. b. SRE faculty promoted RES students to attend energy conventions and advised the Solar District Cup competition group. c. Jin Jo mentored 2 SRE students (Isaac Galewsky and Danny Darsy) who participated in the Aarhus exchange program (Denmark).
3. Provide opportunities for students to interface with SRE professionals.	<i>ISU - Educate, Connect, Elevate</i> Goal IV <i>CAST Strategic Plan</i> Goal I & II. <i>TEC Department</i> Goals 1 & 4.	a. Facilitate events that promote student and faculty interaction with industry. b. Promote internship opportunities for SRE students. c. Create and maintain relationships with companies that employ SRE professionals.	a. Actively promote involvement and advise the Renewable Energy Society (RES), an RSO. b. Promote student attendance at conferences and trade shows and energy-related events. c. Invite SRE professionals to visit SRE classes, or RES. d. Update the database of potential employers and initiate contact for graduate employment and student internships.	b. Both Jin Jo and Matt Aldeman worked with the RES members on a variety of activities (Solar District Cup, ASES, & Sustainable Tailgating). c. SRE faculty promoted the energy related events and conventions to RES. d. SRE faculty hosted a career forum (April, 2024) and the Rivian Day event (October, 2023) for the SRE students. e. SRE faculty provided job and internship opportunities to the SRE students.

<p>4. Provide service to companies and organizations that employ SRE graduates through applied research, consulting/workshops, and participation in professional organizations</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal IV</p> <p><i>CAST Strategic Plan</i> Goals IV</p> <p><i>TEC Department</i> Goals 2 & 4</p>	<p>a. Collaborate with renewable energy industry partners to support student research</p> <p>b. Tenured or tenure-track faculty members will maintain participation and leadership in relevant organizations, boards, or committees.</p> <p>c. Promote student organization participation in industry or community service activities.</p>	<p>a. SRE faculty will collaborate with industry partners to support faculty and student research.</p> <p>b. SRE faculty will work with industry partners to coordinate internship positions and promote student employment.</p> <p>c. SRE faculty will update SRE-related job and internship openings.</p>	<p>a. SRE faculty closely worked with industry partners to promote faculty/student research. (ex. NSF SUPERCHARGE)</p> <p>b. SRE faculty provided job and internship opportunities to the SRE students.</p> <p>c. SRE faculty helped the students in the major get connected with SRE alumni who currently work in the energy industry.</p>
<p>i. Develop industry and SRE alumni relationships in support of the program</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal IV</p> <p><i>CAST Strategic Plan</i> Goals IV</p> <p><i>TEC Department</i> Goals 2 & 4</p>	<p>a. Maintain information distribution to alums through the department newsletter and website.</p> <p>b. Establish relationships with companies who employ SRE professionals.</p> <p>c. Strengthen relationships with alumni.</p>	<p>a. Provided updated information about the SRE program to program alumni.</p> <p>b. SRE faculty will build and maintain relationships with industry partners through industry energy-related events.</p> <p>c. SRE faculty will maintain relationships with SRE alumni via social media.</p>	<p>a. SRE faculty provided program updates via social media.</p> <p>b. SRE faculty attended energy related events and maintain and broaden the industry partnership. (ex. Carle Health, Strategic Economic Research)</p> <p>c. SRE faculty actively communicate with SRE alumni via social media.</p>

Department of Technology
Program Goals and Plan of Work (2023-2024)
B.S. in Technology & Engineering Education

Mission: The mission of the Technology and Engineering Education Program at Illinois State University is to prepare the best, most qualified, technology and engineering education teacher for the secondary school.

<i>T&EE Goals</i>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2023-2024</i>	<i>Report on POW 2023-2024</i>
1. Provide and model appropriate, proven, and varied pedagogical approaches and assessment strategies for the classroom/laboratory	<i>ISU - Educate, Connect, Elevate</i> Goal I. <i>CAST Strategic Plan</i> Goal I & II. <i>TEC Department</i> Goal 1.	a. Continue to expand research-based pedagogical practices b. Continue to refine quality curricular materials and/or develop new courses for undergraduate and graduate programs	a. Continue to include and model pedagogical approaches pre-service teachers are observing in secondary school settings, including those from student teaching b. Implement changes to program curricula based on findings from the CFAST student teaching evaluation system.	a. Continued to adapt course curriculum based upon feedback from pre-student teaching field experience and student teaching. b. Review new assessment data from the CFAST student teaching evaluation. CFAST is temporarily replacing edTPA and is first implemented in the fall of 2022.
2. Stay current and proactive in technological, pedagogical, curricular, and laboratory advances	<i>ISU - Educate, Connect, Elevate</i> Goals I & II. <i>CAST Strategic Plan</i> Goal I. <i>TEC Department</i> Goal 1	a. Continue to redesign, reshape, and reconfigure state-of-the-art facilities based on technological literacy and the needs of the public schools b. Continue to expand research-based pedagogical practices c. Continue to refine quality curricular materials and/or develop new courses for undergraduate and graduate programs	a. Purchase laboratory equipment that relates to the scope and sequence of the program b. Continue to work with and utilize the technology and engineering education advisory board and ISBE on issues related to the public school setting	a. Implemented upgraded laboratory equipment and furniture including new software for the shopbot. b. Working with feedback from ISBE and the Lauby Teacher Education Center to investigate new ways of providing alternative licensure opportunities.
3. Provide educational opportunities for students to teach in a diverse classroom/laboratory	<i>ISU - Educate, Connect, Elevate</i> Goal III & IV <i>CAST Strategic Plan</i> Goal I, II, & IV. <i>TEC Department</i> Goals 1, 3, & 4.	a. All teacher candidates are placed in school-based diverse settings for at least 50 hours prior to starting their student teaching experience	a. Continue to work with Illinois school districts for pre-service placements that offer a diverse setting	a. All technology and engineering education teacher candidates received diverse placements during their 100-hour preparation before student teaching, and also during their student teaching.
4. Provide professional development opportunities for technology and engineering education graduates	<i>ISU - Educate, Connect, Elevate</i> Goal IV <i>CAST Strategic Plan</i> Goals I & II. <i>TEC Department</i> Goals 1 & 4.	a. All <i>interested</i> teacher candidates, including members of the student-based Technology Education Collegiate Association (TECA) work with Pre-K through 12 th grade students at local, regional, state-based contests and/or events b. TECA members participate in professional development activities at state-based and international conferences	a. Deliver summer coursework for practicing teachers b. Promote professional conferences to undergraduate and graduate students c. Continue undergraduate and graduate professional development by working with ISU-TEECA, Illinois TSA, and TEAI	a. TEC 310 and TEC 423 were offered during the summer to both undergraduate and graduates students; both courses were delivered online. b. Undergraduate students attended the state technology and engineering education association conference. c. Program faculty and technology and engineering teacher education candidates have worked closely with the professional associations in Illinois by hosting events, judging events, and attending professional meetings. d. Undergraduate students and faculty attended the International Technology and Engineering Education Association conference in Memphis, TN.

<p>5. Continue to recruit and secure talented undergraduate students and graduate assistants</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal I & III</p> <p><i>CAST Strategic Plan</i> Goals I & II</p> <p><i>TEC Department</i> Goals 1 & 3</p>	<p>a. Recruit talented students into the TE program.</p> <p>b. Recruit and secure at the local and national levels talented graduate assistants to help with programmatic duties, as well as grant-funded activities</p>	<p>a. Recruit potential T&EE students from high school and community college settings</p> <p>b. Disseminate print and electronic media to help with recruiting efforts</p> <p>c. Secure graduate assistants that would benefit from ISU's program</p> <p>d. When available, position graduate assistants on funded projects to assist in project development and professional growth</p>	<p>a. Recruiting still remains the number one activity program faculty do on a regular basis to increase the number of candidates in the technology and engineering education program. Program faculty visited high schools and hosted events to increase the enrollment in the program. We have had strong recruiting classes the past three years.</p> <p>b. We continued to disseminate recruiting materials.</p> <p>c. One graduate student was hired to assist with program teaching and research activities.</p>
<p>6. Continue to have faculty leaders who are engaged in professional organizations and who serve in leadership capacities</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goal IV</p> <p><i>CAST Strategic Plan</i> Goals III & IV</p> <p><i>TEC Department</i> Goals 1, 2, & 4</p>	<p>d. Technology Education faculty hold state-based offices in professional associations and work with the national and international technology education-based organization on a regular basis</p>	<p>a. Technology and engineering education faculty continue to hold departmental, university, state, and national leadership office positions</p>	<p>a. Drs. Chris Merrill and Josh Brown continue to hold national, departmental, college-level, and university-wide positions on committees involving teacher education, faculty/program assessment, and research.</p> <p>b. Drs. Chris Merrill and Josh Brown both serve on the state leadership team for the Technology Student Association.</p>
<p>7. Promote the scholarship of teaching and learning by conducting research and publishing the findings in professional journals and delivering presentations</p>	<p><i>ISU - Educate, Connect, Elevate</i> Goals II & IV</p> <p><i>CAST Strategic Plan</i> Goals III & IV</p> <p><i>TEC Department</i> Goals 2 & 4</p>	<p>a. Conduct, publish, and present scholarly work at regional, state, and international venues</p>	<p>a. Technology and engineering education faculty continue to publish and present scholarly work at regional, state, and international venues that focus on the teaching and learning of STEM education.</p>	<p>a. Drs. Chris Merrill and Joshua Brown presented technology and engineering education/STEM-related presentations at the state and international levels.</p>

Technology & Engineering Education Specific Goals**

The Technology& Engineering Education goals in this report are specific to the programmatic needs at Illinois State University. Although not present in the specific goals listed above, the goals of the accrediting bodies (NCATE/CTETE/ITEEA) are also included, i.e., (a) Technology & engineering teacher education program candidates develop an understanding of the nature of technology within the context of the Designed World; (b) Technology & engineering teacher education program candidates develop an understanding of technology and society within the context of the Designed World; (c) Technology & engineering teacher education program candidates develop an understanding of design within the context of the Designed World; (d) Technology & engineering teacher education program candidates develop abilities for a technological world within the context of the Designed World; (e) Technology & engineering teacher education program candidates develop an understanding of the Designed World; (f) Technology& engineering teacher education program candidates design, implement, and evaluate curricula based upon the national Standards for Technological Literacy; (g) Technology teacher education program candidates use a variety of effective teaching practices that enhance and extend learning of technology; (h) Technology & engineering teacher education program candidates design, create, and manage learning environments that promote technological literacy; (i) Technology& engineering teacher education program candidates understand students as learners, and how commonality and diversity affect learning; and (j) Technology& engineering teacher education program candidates understand and value the importance of engaging in comprehensive and sustained professional growth to improve the teaching of technology

Department of Technology
Program Goals and Plan of Work (2023-2024)
M.S. in Technology

<i>Project Management Goals</i>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2023-2024</i>	<i>Report on POW 2023-2024</i>
1. Provide students with high quality educational experiences by featuring a modern, up-to-date curriculum that will develop technical knowledge and skills, and an understanding of project management while fostering attitudes necessary for successful professional roles in a variety of industries using project management techniques.	<i>ISU - Educate, Connect, Elevate</i> Goal I. <i>CAST Strategic Plan</i> Goals I & II. <i>TEC Department</i> Goal 1.	a. Maintain strong business and industry input to program curricula and facilities decision making. b. Maintain high quality curriculum and instruction. c. Maintain a high quality teaching laboratory to deliver program courses.	a. Program Faculty continues to have strong relationships with industry including numerous visits a year with potential employers for graduating students. b. Courses will continue to be fine-tuned. More guest speakers will be invited into a variety of courses, specifically TEC 430. c. Quality Management and Analytics will be reviewed and applied to practical environments, including companies feedback through advisory board. d. Adapt 300/400 level courses and change the listing numbers.	a. Graduate faculty visited and worked with numerous potential employers and sponsors for internships. b. Local industry professionals participated in a variety of graduate courses. c. Quality management and analytics faculty collaborated with professionals in industry to receive feedback. d. Began implementation of 300/400 level course changes.
2. Recruit and graduate a diverse group of individuals to successfully engage in projects in a variety of industries in Illinois and throughout the United States.	<i>ISU - Educate, Connect, Elevate</i> Goals I & III <i>CAST Strategic Plan</i> Goals I & II <i>TEC Department</i> Goals 1 & 3	a. Maintain sustainable enrollment in the Graduate program at ISU. b. Promote the program to diverse audiences of potential students. c. Promote scholarships to existing and potential students.	a. Recruitment to the program has been successful. A goal number of enrollment is about 70 students total. b. The program is already one of the most diverse graduate programs on campus. The program coordinator continues to recruit students from around the world and also diversify the local applicant pool. c. The list of available scholarships and tuition waivers has been posted online for the first time and will be promoted to all students. Also, diversity scholarships will be encouraged and linked to from our website. d. External Scholarship might be provided by some industrial partners of the graduate program.	a. Graduate program enrollment has maintained at 84 major students, in addition to students in the INTO program or other majors, such as economics or business. b. The graduate program is still one of the most diverse programs on campus and currently enrolls over 50% international students. c. Scholarships and tuition waivers are provided for many graduate students. The diversity scholarships have not been linked from our website. d. Our graduate program had external funded assistantships (Dr. Isaac Chang).
3. Provide opportunities for students to interface with businesses either developing or utilizing project management and quality management techniques and services.	<i>ISU - Educate, Connect, Elevate</i> Goal IV <i>CAST Strategic Plan</i> Goals I & II. <i>TEC Department</i> Goals 1 & 4.	a. Facilitate events that promote student interaction with businesses. b. Forge relationships with . . .	a. Company recruiters (such as Allstate, NTT) will continuously be invited to meet and greet students. Potential employers will partake in student projects. b. Continue to build relationships with local industry to develop external assistantships.	a. Industry partners continue to recruit our students and work with them on internships. b. Our graduate program had external funded assistantships (Dr. Isaac Chang).
4. Provide service to the a variety of industries through applied research, consulting, and participation in professional organizations.	<i>ISU - Educate, Connect, Elevate</i> Goal IV <i>CAST Strategic Plan</i> Goal IV <i>TEC Department</i> Goals 2 & 4	a. Tenured or tenure-track faculty will engage in applied research. b. Tenured or tenure-track faculty members will maintain participation and leadership in relevant professional organizations. c. Promote student participation in professional organizations and community service activities.	a. Faculty involved with the graduate program continue applied research with local companies. b. More faculty will be involved with the graduate program. c. A graduate student organization will be revitalized. d. Graduate students are encouraged to attain certificates from a variety of spectrums and join professional organizations such as PMI.	a. Graduate faculty members have worked with local industry partners involving students in applied research. b. Multiple faculty taught graduate courses. c. The graduate student organization M.A.S.S. hosted multiple meetings with professionals from industry. d. Students have obtained industry certifications through TEC 404 and TEC 400 studies and in partial fulfillment of their graduate experience.

Senior Exit Survey Summary

The Senior Exit Survey is comprised of questions on a 5-point Likert-type scale investigating topics such as quality of instruction, advisement, laboratory facilities, and learning outcomes. There are also open-ended responses soliciting additional comments about the services and program offerings in the department.

Data were collected via a Web-based survey from all department program seniors graduating in December 2023 and May 2024, resulting in a sample of 96 responses.

The Senior Exit Survey form is presented followed by the results for the overall department and also by program/sequence. An average response of 4.0/5.0 suggested that students were satisfied with the quality of instruction. The overall average ratings over the past five years (2019 to 2024) have remained consistently high in this area.

Senior Survey Form Example – Computer Systems Technology

Department of Technology Senior Exit Survey

As part of our continuous quality improvement process, we would like to know your perception of how well we have performed as a department and as an academic degree program.

This brief survey has two parts: (a) ratings of general perceptions about the department and its quality, and (b) ratings on how well you achieved the intended learning outcomes for your major. Anticipated time to complete the survey is about 10 minutes.

Thank you very much for your feedback on the quality of the Department of Technology and its programs of study!

Instructions for questions 1 to 8:

This section includes ratings of your perception about the Department of Technology and its quality.

1. Overall, the quality of instruction in my TEC courses was:*

	Excellent	Good	Neutral	Fair	Poor
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. TEC faculty expertise in their subject matter areas was:*

	Excellent	Good	Neutral	Fair	Poor
Expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Overall, the laboratory quality of my TEC courses (machines, devices, computers, software) was:*

	Excellent	Good	Neutral	Fair	Poor
Lab Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Timeliness of the TEC Advisement Office responses to my inquiries was:*

	Excellent	Good	Neutral	Fair	Poor
Timely Advisement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. My Tec Advisor's effectiveness in my Academic planning was:
*

	Excellent	Good	Neutral	Fair	Poor
Advisement Expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. I rate the usefulness of my TEC major in expanding my career options as:*

	Very Useful	Useful	Neutral	Useless	Very Useless
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	Useful	Useless	Useless	Useless	Useless
Career Options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. I would recommend TEC to a good friend or family member.*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Recommendation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Would you care to share any additional comments about your experiences with the Dept of Technology?

Instructions for questions 9 to 14:

Please indicate how well your degree program prepared you to perform each of the following.

9. I am able to apply the fundamental concepts of digital/analog signals and electronics to computer systems, networking, and media.*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Electronics Concepts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. I am able to use specifications and applications of computer components, network devices, and media in network administration.*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Network Administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. I am able to configure network operating systems and manageable network devices.*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Network Operating Systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. I am able to design database interfaces and utilize basic programming techniques for business applications.*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Databases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. I am able to use project management techniques to develop solutions, and address business issues to meet client needs.*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Project Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Please provide any feedback about the instruction and your learning related to your degree program.

[Empty text box for feedback]

The remaining questions focus on various issues including your employment search and status.

15. At what stage are you in finding a position in your major field?

	Accepted an offer	Have tentative offer	Interviewing	Have not started searching
Job Search	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. If you are actively searching for a job or have landed a position, what has been most helpful so far: (you may answer more than one)

	ISU Career Services	ISU Career Fairs	eRecruiting	TEC Faculty Employer Contacts	My Own Searches (Websites, personal contacts, etc.)
Help in job search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. If you have secured a position, please provide the name of the employer:

Name of employer [Empty text box]

18. If you have secured a position, what is the title of your position?

[Empty text box for position title]

19. What is the salary range for your position?

- less than \$10,000
- 10,001 - \$20,000
- 20,001 - \$30,000
- 30,001 - \$40,000
- 40,001 - \$50,000
- 50,001 - \$60,000
- 60,001 - \$70,000
- 70,001 - \$80,000
- Over 80,000

Summary of Senior Survey Results by Program and Overall

2023-2024 Senior Exit Survey Data Department of Technology Programs		<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Instructional Quality</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Faculty Subject Matter Experts</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Lab Quality</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Advising Responsiveness</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Advisement Effectiveness</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Major Expanded Career Ops</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Recommend TEC to Friend or Family</div> </div>							
		N							
Construction Management	N	32	32	32	32	32	32	32	
	Mean	4.3	4.5	4.3	4.0	4.1	4.7	4.7	
	SD	0.5	0.7	0.8	1.2	1.2	0.6	0.6	
Computer Systems Tech	N	18	18	18	18	18	18	18	
	Mean	3.8	4.2	3.5	4.1	4.4	4.2	3.9	
	SD	0.4	0.4	0.9	0.8	0.8	0.8	0.9	
Engineering Technology	N	24	24	24	23	23	24	24	
	Mean	4.5	4.7	4.4	4.0	4.1	4.6	4.5	
	SD	0.7	0.5	0.7	1.2	1.3	0.5	0.6	
Graphic Communications Technology	N	9	9	9	9	9	9	9	
	Mean	4.3	4.6	4.6	4.6	4.4	4.2	4.2	
	SD	0.9	0.7	0.5	0.7	0.7	0.7	0.8	
Sustainable & Renewable Energy	N	5	5	5	5	5	5	5	
	Mean	4.8	4.8	4.4	4.6	4.4	4.8	4.4	
	SD	0.4	0.4	0.5	0.5	0.9	0.4	0.9	
Technology & Engineering Education	N	8	8	8	8	8	8	8	
	Mean	4.6	4.9	4.3	3.6	3.1	4.5	4.8	
	SD	0.5	0.4	0.9	1.5	1.4	0.8	0.5	
Department Total	N	96	96	96	95	95	96	96	
	Mean	4.3	4.5	4.2	4.1	4.1	4.5	4.4	
	SD	0.7	0.6	0.8	1.1	1.2	0.6	0.7	
		Weakness Benchmark <=3.5 on 5 - Point Scale							
		Scale	5				Strongly Agree		
			4				Agree		
			3				Neutral		
			2				Disagree		
			1				Strongly Disagree		

Department & Support Services Comparison Over 5 Years

	<i>TEC Quality of Instruction</i>	<i>TEC faculty expertise</i>	<i>TEC Labs</i>	<i>TEC Advisement Office Timeliness</i>	<i>TEC Advisor knowledge</i>	<i>Career Options</i>	<i>Recommend TEC</i>	
Question #	1	2	3	4	5	6	7	N =
TEC Avg 2023/24	4.3	4.5	4.2	4.1	4.1	4.5	4.4	96
TEC Avg 2022/23	4.4	4.5	4.1	4.2	4	4.5	4.4	75
TEC Avg 2021/22	4.5	4.6	4.4	4.5	4.5	4.5	4.0	85
TEC Avg 2020/21	4.3	4.4	4.1	4.6	4.6	4.3	4.3	78
TEC Avg 2019/20	4.3	4.4	4.1	4.6	4.6	4.3	4.5	108
5 - Year Avg.	4.4	4.5	4.2	4.4	4.4	4.4	4.3	442
Weakness Benchmark <=3.5 on 5 - Point Scale								
Scale	5			Strongly Agree				
	4			Agree				
	3			Neutral				
	2			Disagree				
	1			Strongly Disagree				

Alumni Survey Summary

Each year, University Assessment Services conducts a survey of Illinois State University alumni one and five years out from graduation. An annual ISU Alumni Survey is conducted by the University Assessment Services (UAS). The department participates in the UAS survey, which includes general questions on perceptions of ISU, as well as a series of questions that correspond specifically to department programs and instruction. The UAS survey collection timeline has recently changed, and they collected multiple years of data during years 2015, 2016, & 2017. The results are reported in each of the program learning outcomes reports. Because the survey is conducted with graduates either one or five years after graduation, the results from the survey capture insight from graduates between the years of 2011 and 2016.