

Illinois State University

Department of Technology

Annual Assessment Report for 2021-2022

January 2023



TED BRANOFF **CHAIRPERSON**
JOSH BROWN **ASSISTANT CHAIRPERSON**

Faculty

Matt Aldeman, PhD: Sustainable & Renewable Energy
Troy Blunier, MS: Engineering Technology
Ted Branoff, PhD: Department Chairperson
Josh Brown, PhD: Technology & Engineering Education
Adam Burke, MS: Graphic Communications Technology
Celeste Calkins, PhD: Graphic Communications Technology
Geoff Campbell, MS: Computer Systems Technology
Yi-hsiang Chang, PhD: Technology Management
Kevin Devine, EdD: Engineering Technology
Sundee Inti, PhD: Construction Management
Randy Jacobs, MS: Construction Management
Jin Jo, PhD: Sustainable & Renewable Energy
David Mallery, MS: Construction Management
Chris Merrill, PhD: Technology & Engineering Education
Jaby Mohammed, PhD: Engineering Technology

Stephen Mujeye, PhD: Computer Systems Technology
Borinara Park, PhD: Graduate Program
Klaus Schmidt, PhD: Graduate Program
Euysup Shim, PhD: Construction Management
Pranshoo Solanki, PhD: Construction Management
Jeritt Williams, MS: Engineering Technology
Sally Xie, PhD: Construction Management

Administrative Professionals & Civil Service
Kyle Campbell: CAST Computer Support Specialist
Jennifer Florence: Program Student Advisor
Elizabeth Gerrard: Office Manager
Alex Roehm, Laboratory Mechanic
Raz Steward: Academic Advisor
Cindy Wert: Office Administrator, Lead Staff

**Department of Technology
2022 Assessment Report**

Table of Contents

<i>Overview of Assessment Methods and Reports</i>	3
Measurement of Learning Outcomes by Program and Sequence.....	3
Assessment Information and Actions	3
Program Goals Report & Work Plans.....	3
Reporting Learning Outcomes & Program Work Plans	3
<i>Program Learning Outcomes Dashboards</i>	
Computer Systems Technology Outcomes Dashboard.....	5
Construction Management Learning Outcomes Dashboard	7
Engineering Technology Outcomes Dashboard	10
Graphic Communications Technology Learning Outcomes Dashboard	12
Sustainable & Renewable Energy Learning Outcomes Dashboard.....	14
Technology & Engineering Education Learning Outcomes Dashboard.....	16
Graduate Program Learning Outcomes Dashboard	19
<i>Program Goal Reports</i>	
Computer Systems Technology Goal Report	21
Construction Management Goal Report	23
Engineering Technology Goal Report	26
Graphic Communications Technology Goal Report.....	28
Sustainable & Renewable Energy Goal Report	30
Technology & Engineering Education Goal Report.....	32
Graduate Program Goal Report	34
<i>Senior Exit Survey</i>	
Senior Exit Survey Summary	35
Senior Exit Survey Form & Items	36
Senior Exit Survey Results 2021-2022	39
Department and Support Services Comparison Over 5 Years.....	40
<i>University Assessment Service Alumni Survey</i>	
Alumni Survey Summary	41

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, ATMAE, edTPA, 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 2021-2022 Learning Outcomes: BS in Computer Systems Technology

	Direct Measurements	Indirect Measurements			
Computer Systems Technology Learning Outcomes. The graduate will be able to:	*Performance Criteria Evaluation	Employer Survey 2014, 2016, 2017, 2019 (employers n=, alumni n=11)	Senior Survey (n=11, Fall 2021/Spring 2022) (1.0 - 5.0 scale)	Alum Survey (n=2, 2015, 2016, 2017) 1.0 - 5.0 scale	Planned Curricular Actions for Improvement (2022-2023)
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	3.9	4.0	We will continue to review course learning outcomes, curriculum and course content with CST faculty. Recommendations will be shared with the Advisory Board members.
2. Use specifications and applications of computer components, network devices, and media in network administration	(b) 75%	10=Meets Expectations; 0=Below Expectations	4.2	3.5	Incorporate more cloud computing concepts in our courses as well as develop a new cloud computing course.
3. Configure network operating systems and manageable network devices	(c) 85%	10=Meets Expectations; 0=Below Expectations	4.2	3.5	Continue to incorporate more virtualization tools in teaching courses in a way that achieve learning outcomes and 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	3.7	3.5	We will include the development of apps that help students to study for CST courses by accessing concepts stored in a database.
5. Use project management techniques to develop solutions, and address business issues to meet client needs.	(b) 75%	10=Meets Expectations; 0=Below Expectations	3.7	3.5	We assess the TUR 173 lab including equipment currently used and propose a new lab with updated and relevant equipment
*Performance Benchmarks		Action benchmark for Survey Data < 3.5/5.0 scale		Action benchmark for Employer Data < 75% “meets expectations” or above	
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);		5 – well above average 4 – above average 3 – average 2 – below average 1 – well below average			

Dept. of Technology 2021-2022 Learning Outcomes: BS in Computer Systems Technology

<p>(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>	
---	--

Dept. of Technology 2021-2022 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 (2022-2023)
		Students' Work in CM Courses		Employer Survey ² (n=13, no of graduates hired=51) <i>Meet Expectation/ Below Expectation/ N/A</i>	Senior Survey ³ (n=22, Fall 2021/ Spr 2022)	ISU Alum Survey ³		
		Overall Score	Courses					
1	Create written communications appropriate to the construction discipline.	91.0%	TEC 394 (n=46)	12/0/1	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.	91.5%	TEC 394 (n=46)	10/0/3	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
3	Create a construction project safety plan .	72.0%	HSC 272 (n = 43)	4/1/8	80%	4.2	N/A	No action at this time. Objective and self-report measures all positive.
4	Create construction project cost estimates .	82.1%	TEC 229 (n = 45)	1/1/1	92%	4.3	N/A	No action at this time. Objective and self-report measures all positive.
5	Create construction project schedules .	82.8%	TEC 325 (n = 44)	11/0/2	110%	4.4	N/A	No action at this time. Objective and self-report measures all positive.
6	Analyze professional decisions based on ethical principles .	80.3%	TEC 120 (n = 28)	11/0/2	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
		91.1%	TEC 123 (n = 61)					
7	Analyze construction documents for planning and management of construction processes.	88.2%	TEC 123 (n = 64)	11/1/1	92%	4.3	N/A	No action at this time. Objective and self-report measures all positive.
		77.6%	TEC 229 (n = 46)					
8	Analyze methods, materials, and equipment used to construct projects.	93.0%	TEC 224 (n = 68)	11/1/1	92%	4.6	N/A	No action at this time. Objective and self-report measures all positive.
		97.1%	TEC 292 (n = 44)					
9		90.3%	TEC 217 (n = 40)	12/0/2	100%	4.6	N/A	This is the first year of direct assessment data collection through course for this SLO.

Dept. of Technology 2021-2022 Learning Outcomes: B.S. in Construction Management

	Apply construction management skills as a member of a multidisciplinary team.	74.3%	TEC 229 (n = 34)					So, faculty plan to review & monitor this SLO in future.
		59.4%	TEC 325 (n = 44)					
10	Apply electronic-based technology to manage the construction process.	89.1%	TEC 217 (n = 57)	12/0/1	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
11	Apply basic surveying techniques for construction layout and control.	92.2%	TEC 223 (n = 67)	6/1/6	86%	4.0	N/A	No action at this time. Objective and self-report measures all positive.
12	Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.	79.6%	TEC 226 (n = 59)	9/1/3	90%	4.4	N/A	No action at this time. Objective and self-report measures all positive.
13	Understand construction risk management.	83.7%	TEC 226 (n = 59)	8/0/5	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
		88.0%	TEC 325 (n = 30)					
14	Understand construction accounting and cost control.	88.6%	TEC 326 (n = 50)	9/1/3	90%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
15	Understand construction quality assurance and control.	87.3%	TEC 292 (n = 45)	7/2/4	78%	4.6	N/A	No action at this time. Objective and self-report measures all positive.
16	Understand construction project control processes.	68.0%	TEC 325 (n = 45)	8/2/3	80%	4.5	N/A	This is the first year of direct assessment data collection through course for this SLO. So, faculty plan to review & monitor this SLO in future.
17	Understand the legal implications of contract, common, and regulatory law to manage a construction project.	83.8%	TEC 226 (n = 59)	6/3/4	67%	4.4	N/A	Faculty plan to review & monitor this SLO in future.
18	Understand the basic principles of sustainable construction.	86.3%	TEC 329 (n = 45)	9/0/4	100%	4.5	N/A	No action at this time. Objective and self-report measures all positive.
19	Understand the basic principles of structural behavior.	89.6%	TEC 327 (n = 49)	8/1/4	89%	4.3	N/A	No action at this time. Objective and self-report measures all positive.
20	Understand the basic principles of mechanical, electrical and piping systems.	85.4%	TEC 222 (n = 54)	7/1/5	88%	4.3	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 2021-2022 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		3	Avg	
6	Trigger for action = 2 or more measures below benchmark		2	Below average	
			1	Well below average	

Dept. of Technology 2021-2022 Learning Outcomes: B.S. in Engineering Technology

	Direct Measurements	Indirect Measurements			
Engineering Technology Learning Outcomes The graduate will be able to:	*Assessment Exam - Avg by Category	Employer Survey 2013, 2014, 2015, 2016 (employers n=8, alumni n=10)	Senior Survey (n=19, Fall 2021/Spring 2022) (1.0 - 5.0 scale)	Alum Survey (n=11, 2015, 2016, 2017) (1.0 - 5.0 scale)	Planned Curricular Actions for Improvement (2022-2023)
1. Interpret and apply basic concepts of materials science such as strength of materials, structural properties, conductivity, and mechanical properties. Perform various non-destructive and destructive materials testing procedures.	(TEC 285, 293) 75.6%	5 meets expectations 0 below expectations 5 N/A	4.1	4.2	No action at this time. Objective and self-report measures all positive.
2. Analyze and apply electrical, electronics, and programming logic principles within various automated manufacturing environments and applications such as industrial robotics, programmable controls, and other such systems.	(TEC 240, 263) 73.4%	9 meets expectations 0 below expectations 1 N/A	4.3	3.9	Integrate new lab equipment and instructional materials into automation classes.
3. Working individually and as a team, monitor and control lean manufacturing processes or other industrial systems.	(TEC 233, 285, 240, 263, 392) 76%	8 meets expectations 0 below expectations 2 N/A	4.2	4.1	No action at this time. Objective and self-report measures all positive.
4. Select appropriate manufacturing processes for production applications such as forming, molding, subtractive and additive manufacturing, conditioning, joining, and finishing.	(TEC 233, 285, 392) 77.8%	6 meets expectations 0 below expectations 4 N/A	4.3	4.3	No action at this time. Objective and self-report measures all positive.
5. Utilize 2-D and 3-D computer-aided design systems to create designs and models for products, machines, jigs, fixtures, and other mechanical devices used in manufacturing environments.	(TEC 216, 392) 82.2%	8 meets expectations 0 below expectations 2 N/A	4.6	4.5	No action at this time. Objective and self-report measures all positive.

Dept. of Technology 2021-2022 Learning Outcomes: B.S. in Engineering Technology

6. Read, interpret, and verify manufacturing documentation such as part prints, plans & specifications, technical models, schematics and diagrams, production plans, tooling plans, quality plans, and safety plans.	(TEC 216, 392) 82.2%	10 meets expectations 0 below expectations 0 N/A	4.5	4.5	No action at this time. Objective and self-report measures all positive.
7. Demonstrate skills in project management, planning, and cost analysis.	(TEC 392) 79.4%	8 meets expectations 0 below expectations 2 N/A	4.3	N/A	No action at this time. Objective and self-report measures all positive.
<p>*Direct Measurement Performance Benchmarks *Performance criteria: at least 75% average in each category indicates good achievement of the learning outcome.</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>5 – well above average 4 – above average 3 – average 2 – below average 1 – well below average</p>			

Dept. of Technology 2021-2022 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=10, 2017, 2018, 2019, 2020, 2021, 2022 (1.0-5.0 scale)	Senior Survey (n=19, Fall 2021/Spring 2022) (1.0 - 5.0 scale)	Alum Survey (n=3, 2015, 2016, 2017) (1.0 - 5.0 scale)	Planned Curricular Actions for Improvement (2022-2023)
1. Create and manage digital media content, including photographic, illustration, video, and animation.	(a) 92%	5.0 4 N/A	4.7	2.7	No action at this time. Objective and self-report measures all positive.
2. Develop production-ready graphic layouts for digital media, print products, and cross-media products like publications, packages, labels, and signage.	(a) average 9/10; (b) 92%	5.0 1 N/A	4.7	3.0	A new package design and prototyping software IC3D was donated to the program and will be incorporated into production courses. Also trying to acquire new imposition software as requested by students to enforce concepts associated with the topic.
3. Participate productively in a range of graphic production processes, including printing (litho, flexo, digital), ePublishing, and website development.	(a) 8/10 (b) 84%	5.0	4.7	2.7	This group of students has had a lack of in person production due to the pandemic. Some difficulty in managing files in the workflow. As more time is spent in the lab, and we have a consistent process for the workflow, file management will improve.
4. Employ a technology management skill set, including project management, quality control, and business practices.	(a) average 9/10 (b) 100% pass rate (20/20) average grade of 88.75%	5.0	4.4	3.3	After the pandemic, students use more of the open lab time to work from home. This has effected production. Will be encouraging students to use open lab time to work in the lab.
5. Learn independently within the context of the graphic communications discipline.	(a) 86%	5.0	4.6	3.3	No action at this time. Objective and self-report measures all positive.
6. Solve problems within the context of the graphic communications discipline.	(a) average 9/10	4.9	4.7	3.3	No action at this time. Objective and self-report measures all positive.

Dept. of Technology 2021-2022 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) Packaging project related to production (TEC 350)</p>	<p>5 – well above average 4 – above average 3 – average 2 – below average 1 – well below average</p>	

Dept. of Technology 2021-2022 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=7, Fall 2021/Spring 2022) (1.0 - 5.0 scale)	Alum Survey (n=5, 2015, 2016, 2017) (1.0 - 5.0 scale)	Planned Curricular Actions for Improvement (2022-2023)
1. Describe the physical laws and resources that constrain our energy systems.	(a) 83.6% (b) 77.54%	13 meets expectations 2 N/A	4.4	4.8	No action at this time. Objective and self-report measures all positive.
2. Define the operation of RE systems in terms of basic electrical and physical principles.	(a) 90.38% (b) 91.54% (c) 82.1% (d) 83.3% (e) 67.2%	13 meet expectations 1 below expectations 1 N/A	4.4	4.4	(e) Two of nine students did not submit this assignment. No action at this time. Objective and self-report measures all positive.
3. Apply basic business, economic, and technical management principles in a variety of technical and non-technical contexts.	(a) 91.67% (b) 74.08%	14 meet expectations 1 below expectations	4.3	4.2	No action at this time. Objective and self-report measures all positive.
4. Explain and defend their positions on energy/political/social issues.	(a) 92.31%	12 meet expectations 3 N/A	4.6	4.8	No action at this time. Objective and self-report measures all positive.
5. Design residential and commercial solar photovoltaic (PV) systems using renewable energy software	(a) 88.66% (b) 87.75%	7 meets expectations 8 N/A	4.7	3.0	No action at this time. Objective and self-report measures all positive.
6. Analyze wind data using professional software.	(a) 85.92% (b) 118.9%	3 meets expectations 12 N/A	4.0	3.2	No action at this time. Objective and self-report measures all positive.
7. Optimize renewable energy business decision-making.	(a) 85.92%	11 meets expectations 4 N/A	4.3	3.6	No action at this time. Objective and self-report measures all positive.
8. Develop a business case for a commercial RE project.	(a) 98%	12 meets expectations	4.4	4.0	No action at this time. Objective and self-report measures all positive.

Dept. of Technology 2021-2022 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 2021-2022 Learning Outcomes: B.S. Technology & Engineering Education

	Direct Measurements	Indirect Measurements			
<p>Technology & Engineering Education Learning Outcomes</p> <p>The graduate will be able to:</p>	*Performance Criteria Evaluation	*Performance as Classroom Teacher (2017, 2018) ISBE Overall Evaluation Data.	Senior Survey (n=6, Fall 2021/Spring 2022) (1.0 - 5.0 scale)	Alum Survey (No TEE graduates responded 2015, 2016, 2017)	Planned Curricular Actions for Improvement (2022-2023)
<p>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>.</p>	(1) 100% TEC 101 (n=11) (2) 100% Pass (n=8)	12/12 meets expectations	4.8	N/A	No action at this time. Objective and self-report measures all positive.
<p>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>.</p>	(1) 100% TEC 101 (n=11) (2) 100% Pass (n=8)	12/12 meets expectations	5.0	N/A	No action at this time. Objective and self-report measures all positive.
<p>3. Design Technology and Engineering teacher education program candidates develop an understanding of design within the context of the <i>Designed World</i>.</p>	(1) 100% TEC 303 (n=10) (2) 100% Pass (n=8)	12/12 meets expectations	5.0	N/A	No action at this time. Objective and self-report measures all positive.
<p>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>.</p>	(1) 100% TEC 305 (n=11) (2) 100% Pass (n=8)	12/12 meets expectations	4.8	N/A	No action at this time. Objective and self-report measures all positive.
<p>5. The Designed World Technology and Engineering teacher education program candidates develop an understanding of the <i>Designed World</i>.</p>	(1) 100% TEC 303 (n=10) (2) 100% Pass (n=8)	12/12 meets expectations	4.8	N/A	No action at this time. Objective and self-report measures all positive.

Dept. of Technology 2021-2022 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) edTPA not completed. (2)100% Pass (n=8)	12/12 meets expectations	4.5	N/A	No action at this time. Objective and self-report measures all positive.
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) edTPA not completed. (2)100% Pass (n=8)	12/12 meets expectations	5.0	N/A	No action at this time. Objective and self-report measures all positive.
8. Learning Environments Technology and Engineering teacher education program candidates design, create, and manage learning environments that promote technological literacy.	(3) edTPA not completed. (2)100% Pass (n=8)	12/12 meets expectations	4.8	N/A	No action at this time. Objective and self-report measures all positive.
9. Students Technology and Engineering teacher education program candidates understand students as learners, and how commonality and diversity affect learning.	(3) edTPA not completed. (2)100% Pass (n=8)	12/12 meets expectations	4.8	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) edTPA not completed. (2)100% Pass (n=8)	12/12 meets expectations	5.0	N/A	Encourage students to engage in professional opportunities (conferences, workshops, etc.)

<p>*Performance Benchmarks:</p> <p>(1) Course Grades – Pass Rate</p> <p>(2) Teacher Licensure Exams (T&EE Content) – Students may have taken more than once.</p> <p>(3) edTPA Scored Portfolio – On Pause due to the pandemic</p> <p>(4) Student Teaching</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>Performance Outcomes Instructional Strategies</p> <p>Outcomes 1- 5, 7, 8: These outcomes are accomplished by program faculty providing and modeling appropriate, proven, and varied pedagogical approaches and assessment strategies for the classroom/laboratory. Further, this outcome is measured by the edTPA scored portfolio during student teaching. (T&EE Program Goal 1)</p> <p>Outcomes 1-6, 8: This outcome is accomplished by program faculty staying current and proactive in technological, pedagogical, curricular, and laboratory advances. Further, this outcome is measured by holding and implementing recommendations from the T&EE Advisory Board. (T&EE Program Goal 2)</p>		<p>5 – well above average</p> <p>4 – above average</p> <p>3 – average</p> <p>2 – below average</p> <p>1 – well below average</p>

Dept. of Technology 2021-2022 Learning Outcomes: B.S. Technology & Engineering Education

Outcome 9: This outcome is accomplished by program faculty providing educational opportunities for students to teach in a diverse classroom/laboratory; 50 hours of diverse clinical experiences are required by each T&EE teacher education candidate. (T&EE Program Goal 3). This outcome is accomplished by program faculty recruiting and securing talented graduate assistants (T&EE Program Goal 5)

Outcome 10: This outcome is accomplished by program faculty providing professional development opportunities for T&EE graduates (T&EE Program Goal 4); This outcome is accomplished by continuing to have faculty leaders who are engaged in professional organizations and who serve in leadership capacities (T&EE Program Goal 6); This outcome is accomplished by program faculty who promote the scholarship of teaching and learning by conducting research and publishing the findings in professional journals and delivering presentations (T&EE Program Goal 7)

Dept. of Technology 2021-2022 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 (2022-2023)
1. Approach problems and challenges in a systematic way	Major Project in Research methods course. 97.2% pass rate (N=36)		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=72)	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=15)	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 (2021-2022)
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 2020-2021 (September 2021)</i>	<i>Report on POW 2021-2022 (November 2022)</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.	The program faculty met regularly over Zoom and in person to discuss curriculum and teaching updates. Most of the discussions centered on adding a Cloud Computing course to our curriculum. As a result of these conversations, the course in Cloud Computing is currently going through the approval process. The CST Advisory Board Meeting has been convened each year in Spring and we got valuable feedback from the board members. The board members also confirmed the need to add Cloud Computing course based on the trends they are seeing in the industry. We continued conducting surveys of graduating students. Additionally, we also worked a student who was conducting surveys to all students who have previously enrolled in TEC 151. The surveys were completed as part of a study seeking student feedback to improve student success in TEC 151.
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	Efforts were made to partner with other faculty in the School of IT to promote STEM programs in the local high schools. The efforts were specifically targeting more STEM recruitment among minorities and underserved communities. The recruitment efforts included working with high schools in McLean County as well as Heartland Community College.
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.	Faculty members invited different professionals to come to the classroom to talk to students about their experiences. Some of the professionals were from Amazon Web Services who shared their experience with cloud-based solutions with students. 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. CST Board members Ron Rutkowski and Steve Menken also came to the classroom to talk to students about how they transitioned from being students into the workplace. The faculty encouraged students (especially juniors and seniors) to attend ISU's career events. Students were encouraged in class and email reminders were also sent.
4. Provide service to the computing field through applied research, consulting, and participation in professional organizations.	<i>Educate Connect</i> <i>Elevate Illinois</i> State Goal #2, 4 CAST Strategic Plan Goal # 3, 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.	a. Tenured or tenure-track faculty continue to present and publish applied research. b. Tenured or tenure-track faculty maintain membership in and serve in leadership roles in relevant professional organizations. c. Tenured or tenure-track faculty continue to promote student membership and involvement in relevant professional organizations.	The tenure-track faculty have presented and published articles in the following proceedings: <ol style="list-style-type: none"> 1. Association of Computing Machinery 2. The International Conference on Software Engineering and Information Management 3. International Institute for Applied Knowledge Management

	TEC Department Goal #2	c. Promote student participation in professional organizations and community service activities.		<p>Tenure-track faculty have maintained memberships in the Association of Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE) organizations. Additionally, they have also served as program committee members and reviewers for several journals including Information and Computer Security (ICS) and Informing Science Institute.</p> <p>The faculty continued to encourage and promote student membership in the IEEE Student Club. Students were also encouraged to join the national IEEE. The forums used to promote student memberships included classrooms, emails, and open house events.</p>
--	------------------------	--	--	---

Department of Technology
Program Goals and Plan of Work (2021-2022)
B.S. in Construction Management

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

CM Goals	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2021-2022</i>	<i>Report on Plan of Work 2021-2022</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): teaching linear scheduling with TILOS in TEC 325; teaching Revit MEP modeling in TEC 217.</p> <p>b. Explore/ operationalize international education opportunities that provide opportunities for students (Faculty).</p> <p>c. Conduct employer and senior surveys (Solanki).</p> <p>d. Provide research and unconventional learning opportunities to complement traditional education (Faculty).</p> <p>e. Arrange project tours and guest lectures (Faculty).</p> <p>f. 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>g. 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>h. Actively participate in ACCE meetings, committee/ accreditation activities. Faculty members attend ACCE meetings for accreditation training (Faculty).</p>	<p>a. All 20 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. Both the employer survey (13 responses) and senior exit survey (23 responses) were administered, and the result was incorporated in the CM learning outcome assessment (Solanki and Jacobs)</p> <p>c. Active learning activities in courses (Solanki developed and implemented Fiber Reinforced Concrete Bowling Ball activity in TEC 292 course)</p> <p>d. TILOS was used to teach linear scheduling method in TEC 325 (Shim).</p> <p>e. Revit modeling methods for mechanical, electrical, and plumbing work scopes were implemented in one project assignment of TEC 217. In the same project, students were asked to discuss and explain how to coordinate different scopes of work from multi-disciplinary perspectives. (Xie)</p> <p>f. Research opportunities to students (Solanki advised six undergraduate students on IDOT funded research project. Xie provided research opportunities and advised one undergraduate student on a student-led research project sponsored by the ISU Funding for Research, Scholarship, & Creative Activity (FIRE Bird))</p> <p>g. 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>h. ACCE report of correction action taken was submitted in Oct’21 to address weakness (Shim and Solanki)</p> <p>i. CM program review report submitted to ISU was revised and re-submitted for addressing comparator analysis comments (Solanki)</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>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>e.</p>	<p>a. Updated community colleges-articulation agreements as needed (Solanki).</p> <p>b. Career fairs were hosted both in Fall and Spring with 35 (Fall) and 48 (Spring) employers and around 102 (Fall) and 96 (Spring) students. (Jacobs and Solanki).</p> <p>c. Distributed information on jobs, internships, scholarship, and CMSA activities in a timely fashion through email, and Facebook (Faculty).</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>4. Promote a culture of respect and inclusion among faculty, staff, and students.</p>			
<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 - 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. • ASC Region 6&7 National Open Competition (Project Management), Sparks, NV • NECA student competition • ACI student competition <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).</p> <ul style="list-style-type: none"> • CMSA Meetings – 2nd Mondays 6 pm monthly (Jacobs) • CMSA Board Meetings – monthly (Jacobs) • CMSA Field Trips – 1 – 2 per year • NECA National Convention • MCAA Annual Convention – • Two teams (Commercial and Preconstruction) participated in ASC region 3 competition and the Commercial competition team took the second place. <p>b. Conducted applied research and professional development activities (CM Faculty)</p> <p>14 refereed journal articles, 11 refereed conference proceedings, 3 book chapters</p> <p>c. Students attended meetings for professional associations. (Jacobs)</p> <ul style="list-style-type: none"> • (4) Students attended the NECA Convention held in Nashville, TN October 10-12, 2021. Seniors Carson Stilp, Zac Straube, and Juniors Justin Jagiello, John Tatera. Students were able to see the companies that attended the convention floor, qualifying student presentations and network with Professional and Student NECA membership. • (6) Students attended the MCAA Student Summit in Scottsdale, AZ October 14-17, 2021. Seniors Jack Reinert, Zac Straube, and Juniors Justin Jagiello, Marie Denis, Alexis Britton and Freshman Miriam Zappa. Students were shown the competition problem and given narrative instructions on how to solve the main problems related to completing the project. • (5) Students Senior Jack Reinert and Juniors Justin Jagiello, Marie Denis, Alexis Briton and Freshman Miriam Zappa attended the MCAA National Convention March 13-17, 2021 in San Diego, CA and were able to attend the qualifying competition presentations in person and network with other mechanical contracting professionals and students. • (Jacobs) Attended (MEAC) Mechanical and Electrical Faculty Bootcamp from 6/28-6/30 held at Cal Polytechnic Institute in San Luis Obispo, CA. MCAA member instructors were given instruction and shared curriculum ideas regarding the mechanical and electrical courses they teach. There is to be another one offered in Milwaukee in the summer of 2023 revolving around VDC that I would like to attend.
<p>4. Internal and External Funding Support: Through a combination of internal and external resources, maintain the funding</p>	<p>[Educate-Connect-Elevate 2018–2023]</p> <p>3. Enhance Strength and Stability</p> <p>c) Strengthen financial position</p> <p>4. Enrich Engagement</p> <p>a) Foster partnerships offering collaborate and mutually beneficial opportunities.</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).</p> <p>b. Host 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).</p>	<p>a. CM Industry Partnership had 10 partners (>\$2,000) for 2021-22 (Faculty).</p> <p>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).</p>

<p>necessary to support CM Program activities.</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>c. Monitor and promote CM Scholarships, both at TEC website and other regular and on-going scholarships (Faculty)</p> <p>d. Maintain ISU CM Alumni group on Facebook to keep alumni engaged and share job openings for experienced candidates (Jacobs).</p>	<p>c. Monitored and promoted CM Scholarships through e-mails, TEC website, student-shared drive and during classes. (Faculty)</p> <p>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>
--	---	--	--	--

Department of Technology
Program Goals and Plan of Work (2021-2022)
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 2021-2022</i>	<i>Report on POW 2021-2022 (November 2022)</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 2021/2022 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. Conduct preliminary study regarding the feasibility of pursuing ABET accreditation. g. Purchase and install updated equipment in the CAT-IML.	a. No advisory board meeting was held b. Student learning was assessed across all learning outcomes via the ET assessment Exam administered during TEC 392. c. Blunier, Williams, Aldeman, and Mohammed attended several development events including ASEE, IDEA, and ITEEA conferences. d. Ongoing effort. e. Ongoing discussions. f. Conversations with ABET and faculty from ABET accredited institutions took place. g. Equipment was ordered but has not yet been delivered.
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. c. Most field trips were not held due to lingering COVID protocols and concerns. TEC234 did tour Rivian. d. TEC345 & TEC263 had a guest speaker e. ET faculty maintain regular contact with many employers. Devine and Williams conducted robotics training for a local manufacturing company. 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, Mohammed, and Aldeman 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.</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.</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 (2021-2022)
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 2021-2022</i>	<i>Report on POW 2021-2022 (November 2022)</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.	<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 industry input to program curriculum decision making. b. Maintain high quality curriculum and instruction. c. Maintain a cutting edge graphic communications lab. d. Maintain highly qualified faculty.	a. Conduct an international search for the hire of a tenure track faculty position in GCT b. Assemble and conduct an advisory board meeting in Spring 2022 semester. Share information with the advisory board throughout the rest of the year, including this plan of work. c. Prepare and encourage students to take these certifications: Adobe Certified Associate for Print and Digital Media Production (TEC 250), Autodesk Certified User in Maya (TEC 317), Idealliance Print Planning & Estimating Digital Printing certification (TEC 354), Idealliance Fundamentals in Color Management Certification (TEC 353), Adobe Certified Associate in Visual Design Using Adobe Photoshop CC (TEC 253). d. Develop curriculum for 3D scanning and modeling for Tec 317. e. Install, train, and develop curriculum to include designing and production using the LED UV lights on the flexographic press in Tec 257 and Tec 350. f. Develop curriculum to include the use of After Effects in Tec 152 g. Measure student performance for outcomes assessment 2021/2022 and revise instruction as needed. h. Conduct an employer survey in Summer 2022 to assess graduate performance according to program learning outcomes. i. Faculty development by attending professional development events, including Printing UNITED, FTA/InfoFlex, GCEA, and Label Congress j. Update requested materials for the University Program Assessment which is a comparative analysis of similar programs from other universities. h. Develop curriculum for sustainability and direct mail as suggested by ACCGC site visitors	a. After a successful tenure track search, Dr. Celeste Calkins was hired and began August 2022. b. Advisory board meeting held in Utica, IL on April 22 nd , 2022. c. Idealliance certifications where completed as assigned in their specific courses. Adobe Creative Cloud certifications where not completed. d. 3D scanning curriculum still being developed. IT issues with software and computer have delayed the process. e. LED UV inks and coatings have been incorporated into Tec 257 and Tec 350 production. The technology was also used by the Phoenix Challenge Competition team. f. Professor Katz developed Adobe After Effects curriculum and incorporated into Tec 152. g. Student performance metrics where reviewed. The issues this year where related to working cooperatively in teams. The motivation for working remotely and through video conferencing was the biggest issue for students. h. Two organizations completed employer surveys that accounted for five recent graduates of the program. i. Burke attended Label Congress with students. Burke attended FTA/Infoflex. j. Materials updated and accepted for University Program Assessment. a. Topic of Direct Mail was addressed in Tec 356. Some curriculum was updated with content from University Mailing Services. Specialty Print Communications has given multiple lectures on the direct mail industry to classes.
1. Recruit and graduate a diverse group of individuals to support the graphic communications industry 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 GC program at ISU. b. Promote the program to diverse audiences of potential students. c. Promote industry-sponsored scholarships to existing and potential students.	a. Review and update existing 2+2 articulation plans. Explore the options for including new community colleges. b. Post appropriate scholarship opportunities GLGA, FFTA, PGSF, SGIA, and support students' efforts for scholarship awards. Also, better promote departmental internal scholarships. c. Review existing database of relevant high school programs and update. Print & mail posters to high schools in Illinois. d. Provide in person and virtual tours to community colleges and high schools. e. Make multiple points of contact to all applicants to the GCT program.	a. This was not investigated and will be added to the plan of work for next year. b. Students received \$50,000 in extranl scholarships from PGSF, IOPP, and Printing United. Two internal scholarships where also awarded to our students. c. GA Ferguson has been updating the database of relevant high school programs. Marketing materials are being developed by Tec 250 d. ICC and Normal West where hosted for tours of our program. a. GA Ferguson regularly emails, calls, and texts accepted students into our program.
3. Provide opportunities for students to interface with the graphic communications industry.	<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 and faculty interaction with industry. b. Increase internship opportunities for GC students. c. Forge relationships with graphic communications companies and personnel. Provide avenues for graduate recruitment.	a. Burke to invite alumni and industry professionals as speakers for multiple courses b. Burke and students will participate in the Careers in Corrugated teleconference, FTA InfoFlex, Printing UNITED Conference, and Label Congress c. Organize visitations to a wide variety of GC businesses (as COVID-19 protocols allow).	a. Multiple organizations and individuals have presented to various courses in the program. b. 15 Students attended Label Congress. Two students attended FTA Infoflex. c. Two Tec 150 classes toured Taylor Corporation. Opportunities where still limited this year. d. After a discussion with the advisory board, the plan of a Career Day was dismissed. We will continue have organizations come to

			<ul style="list-style-type: none"> d. Make a focused effort to expand employment and internship opportunities for students. Explore the options of hosting an official Career Day for GCT students, as suggested by ACCGC e. Compete in the Phoenix Challenge Competition f. Revitalize the dormant (due to the pandemic) Registered Student Organization. 	<p>individual courses to present and recruit. An abundance of employment opportunities still exist for students.</p> <ul style="list-style-type: none"> e. ISU placed second in the Phoenix Challenge Competition. The event was again held virtually. <ul style="list-style-type: none"> a. Although limited members, the RSO did begin to meet in person and complete production jobs related to screen printing and logo design.
<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>	<ul style="list-style-type: none"> b. Tenured or tenure-track faculty will engage in research that supports the industry. c. Tenured or tenure-track faculty members will maintain participation and leadership in relevant organizations, boards, or committees. d. Promote Student organization participation in industry or community service activities. 	<ul style="list-style-type: none"> a. Katz and Burke will participate in Printing UNITED, Label Expo, GCEA, GLGA, and FTA activities. b. Katz and Burke will explore the option of and, if permissible, host an in person GCEA Region One Spring conference 	<ul style="list-style-type: none"> a. Burke attended FTA. Katz and Burke attended Label Congress. b. Katz and Burke hosted the GCEA Region One Fall Conference. Both also presented. <ul style="list-style-type: none"> a. Katz and Burke also judged the Skills USA Illinois Competition for Screen Printing, Dye Sublimation, and Graphic Communications.

Department of Technology
Program Goals and Plan of Work (2021-2022)
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 2021-2022</i>	<i>Report on POW 2021-2022 (November 2022)</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 convention. c. SRE faculty will work with other academic institutions for recruitment and post graduate opportunities.	a. One advisory board meeting was conducted in April 2022. b. Jin Jo attended the EUEC conference (rescheduled from February to October 2022) and Matt Aldeman attended the ASEE conference (Energy Conversion and Conservation Division). c. SRE faculty had a meeting with Heartland Community College faculty to discuss the partnership opportunities for recruitment.
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 3 SRE students who are interested in participating in the exchange program.
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. SRE faculty hosted a career forum (April 22), Tesla Night (October 21) for the SRE students. d. 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>d. SRE faculty will establish the Sustainable Energy Consortium (SEC).</p>	<p>a. SRE faculty closely worked with industry partners to promote faculty/student research. (ex. SIREN NSF grant proposal submitted in 2022).</p> <p>b. SRE faculty provided job and internship opportunities to the SRE students.</p> <p>c. Same as the above</p> <p>d. The SEC was established, and the website is currently under development.</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. Tesla, State Farm)</p> <p>c. SRE faculty actively communicate with SRE alumni via social media.</p>

**Department of Technology
Program Goals and Plan of Work (2021-2022)
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 2021-2022</i>	<i>Report on POW 2021-2022 (November 2022)</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 edTPA teacher candidate submissions and the respective feedback from the reviewers	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 CPAST student teaching evaluation. CPAST 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 3D printers and VEX robotics equipment. 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.

<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>a.</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. Dr. Chris Merrill was a state leader on a funded CTE professional development project and for the Technology Student Association.</p> <p>c. Dr. Josh Brown is currently serving as Treasurer of the national professional organization Council for Technology Engineering Teacher Education</p> <p>d. 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. Dr. Josh Brown published an article in the Technology and Engineering Teacher journal and a new edition of the textbook Engineering Fundamentals.</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 (2021-2022)
M.S. in Technology

<i>Project Management Goals</i>	<i>Goal Alignment</i>	<i>Strategies</i>	<i>Plan of Work for 2021-2022</i>	<i>Report on POW 2021-2022 (November 2022)</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. c. Provide more laboratory experiences in the graduate courses and allow 300 level courses as electives if student background or experiences are given.	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. Multiple discussions with sequences conducted to explore 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.
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.	b. Industry partners continue to recruit our students and work with them on internships. c. No external assistantships have been developed.
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. was initiated. 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 2021 and May 2022, resulting in a sample of 85 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 (2017 to 2022) 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
--	-------------	--------	---------	---------	--------------

	Useful	Useful	Neutral	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

2021-2022 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>						
Construction Management	N	23	23	23	23	23	23	23
	Mean	4.5	4.6	4.3	4.7	4.6	4.7	4.7
	SD	0.6	0.5	0.6	0.6	0.8	0.5	0.6
Computer Systems Tech	N	11	11	11	11	11	11	11
	Mean	3.5	3.8	3.7	4.3	4.3	3.8	2.6
	SD	1.3	1.1	1.3	1.3	1.3	1.0	1.6
Engineering Technology	N	19	19	19	19	19	19	19
	Mean	4.4	4.6	4.5	4.3	4.4	4.2	4.1
	SD	0.6	0.5	0.7	0.9	0.8	0.5	0.7
Graphic Communications Technology	N	19	19	19	19	19	19	19
	Mean	4.9	5.0	4.6	4.7	4.6	4.5	4.3
	SD	0.3	0.0	0.5	0.5	0.5	0.7	1.0
Sustainable & Renewable Energy	N	7	7	7	7	7	7	7
	Mean	4.9	5.0	4.6	4.4	4.3	4.9	1.4
	SD	0.4	0.0	0.5	0.5	1.1	0.4	0.5
Technology & Engineering Education	N	6	6	6	6	6	6	6
	Mean	5.0	4.8	4.5	4.8	5.0	5.0	5.0
	SD	0.0	0.4	0.5	0.4	0.0	0.0	0.0
Department Total	N	85	85	85	85	85	85	85
	Mean	4.5	4.6	4.4	4.5	4.5	4.5	4.0
	SD	0.8	0.6	0.8	0.7	0.8	0.7	1.3
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

	<div style="display: flex; justify-content: space-around;"> <div style="background-color: #d9e1f2; padding: 5px; transform: rotate(-45deg); white-space: nowrap;">TEC Quality of Instruction</div> <div style="background-color: #d9e1f2; padding: 5px; transform: rotate(-45deg); white-space: nowrap;">TEC faculty expertise</div> <div style="background-color: #d9e1f2; padding: 5px; transform: rotate(-45deg); white-space: nowrap;">TEC Labs</div> <div style="background-color: #d9e1f2; padding: 5px; transform: rotate(-45deg); white-space: nowrap;">TEC Advisement Office Timeliness</div> <div style="background-color: #d9e1f2; padding: 5px; transform: rotate(-45deg); white-space: nowrap;">TEC Advisor knowledge</div> <div style="background-color: #d9e1f2; padding: 5px; transform: rotate(-45deg); white-space: nowrap;">Career Options</div> <div style="background-color: #d9e1f2; padding: 5px; transform: rotate(-45deg); white-space: nowrap;">Recommend TEC</div> </div>							
Question #	1	2	3	4	5	6	7	N =
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
TEC Avg 2018/19	4.3	4.4	4.2	4.5	4.4	4.6	4.3	106
TEC Avg 2017/18	4.3	4.6	4.2	4.1	4	4.4	4.6	101
5 - Year Avg.	4.3	4.5	4.2	4.5	4.4	4.4	4.4	478
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.