



K-State 2025 Strategic Action and Alignment Plan

College or Major Unit: K-State Salina

Department: Engineering Technology

1. What are your Department’s mission and vision and how does your organization contribute to achieving the University’s and your College’s/Major Unit’s vision for K-State 2025?

Mission: The Department of Engineering Technology’s mission is to provide students with the opportunity to pursue a novel and innovative education path that is grounded in the fundamentals of applied research and is validated by practical field experiences, which are guided by social awareness in an ethically sound global environment.

Vision: The Department of Engineering Technology will seek preeminence in terms of quality and excellence as an internationally recognized domain and teaching and applied research.

2. What are your Department’s key strategic activities and outcomes?

3. Identify [in brackets] which of your Department’s strategic outcomes are directly linked to your College’s/Major Unit’s outcomes. (If your Department or similar unit is not in a College or Major Unit, skip this question.)

Key Activities	Short Term (2013 - 2015) Key Outcomes	Intermediate (2016 - 2020) Key Outcomes	Long Term (2021 - 2025) Key Outcomes
<i>What we plan to do...</i>	<i>What we expect to happen...</i>	<i>What we expect to happen...</i>	<i>What we expect to happen...</i>
<p>THEME 1: RESEARCH, SCHOLARLY AND CREATIVE ACTIVITIES, AND DISCOVERY (RSCAD)</p> <p>Establish focused research themes in the emerging areas of innovative manufacturing, bulk solids, and unmanned systems that benefits society and allow us to serve the land-grant mission.</p> <p>1. Build innovative manufacturing, bulk solids, unmanned systems, and established pedagogical research strengths to serve industry that will fulfill our land-grant mission.</p> <p>2. Focus efforts on securing large, inter-, multi-, and cross-disciplinary grants that have high impact in the community.</p> <p>3. Allocate scarce resources to invest in focused research themes especially for the construction of an ‘Innovative</p>	<p>A. Develop plans to increase the average number of peer-reviewed articles for each program [1-B, 1-D, 1-E, 1-G]</p>	<p>A. Increase the number of peer-reviewed articles to 8 per year [1-B, 1-E]</p>	<p>A. Increase the number of peer-reviewed articles to 12 per year [1-B, 1-E]</p>
	<p>B. Develop plans to increase average number of published industrial case studies for each program [1-D, 1-E, 1-G]</p>	<p>B. Increase average number of published industrial case studies to 5 per year [1-E]</p>	<p>B. Increase average number of published industrial case studies to 10 per year [1-E]</p>
	<p>C. Develop plans to increase number of applied research proposals submitted by each program [1-A, 1-D, 1-G]</p>	<p>C. Increase number of applied research proposals submitted by ET faculty to 3 per year [1-A]</p>	<p>C. Increase number of applied research proposals submitted by ET faculty to 5 per year [1-A]</p>
	<p>D. Develop plans to increase each program area’s research expenditure [1-B]</p>	<p>D. Increase ET department’s research expenditure to \$500,000 per year [1-A, 1-G]</p>	<p>D. Increase ET department’s research expenditure to \$1M per year [1-A, 1-G]</p>
	<p>E. Develop plans to increase number of industrially funded research projects [1-A, 1-F, 1-G, 1-H]</p>	<p>E. Increase number of industrially funded research projects to 10 per year [1-A, 1-F, 1-G, 1-H]</p>	<p>E. Increase number of industrially funded research projects to 20 per year [1-A, 1-F, 1-G, 1-H]</p>
	<p>F. Establish collaborative research center known as the ‘Innovative Manufacturing Institute’ at Salina and develop relationship with Manhattan campus to increase research activities in the focused</p>	<p>F. Extend impact of the ‘Innovative Manufacturing Institute’ and the entrepreneurial ‘hothouse’ into a nationally identified knowledge cluster</p>	<p>F. Establish a global ‘Innovative Manufacturing Institute’ presence at knowledge clusters predominantly in Australia and in western Europe [1-J]</p>

<p>Manufacturing Institute’</p> <p>4. Recruit and retain highly skilled faculty whose interests are in strategic and emerging applied research areas.</p> <p>5. Encourage faculty to partner with global industries in areas of applied research, foster a spirit of entrepreneurial activity by translating applied research into products and services, and encourage students to create jobs rather than take jobs.</p> <p>6. Encourage faculty to foster a culture of undergraduate research by exposing students to faculty research enterprises.</p>	<p>research areas [1-A, 1-C]</p>	<p>G. Implement a departmental policy that allows research collaboration and funding between campus and distance faculty to occur</p>	<p>G. 10% of online and blended learning faculty participate in research with ET campus faculty together with 5% increase in funding</p>
<p>THEME II: UNDERGRADUATE EXPERIENCE</p> <p>Provide high quality undergraduate programs that are applied in nature and prepare students for the challenges of the 21st century.</p> <p>1. Provide modern degree programs that are structured in a way that blends academic studies with professional experiences within a dedicated ‘model factory’ setting.</p> <p>2. Promote and enhance the use of problem-based learning strategies.</p> <p>3. Develop blended programs with global outreach to maximize the ability of students to learn wherever they are located.</p> <p>4. Develop learning methods during internship training periods in order to accelerate graduation rates.</p>	<p>A. Develop measures of quality of teaching and undergraduate experiences and develop plans to increase the number of BS graduates in technology fields [2-F, 2-H, 2-I]</p> <p>B. Develop a plan to increase the number of distance courses offered by each program [2-F]</p> <p>C. Develop a plan to increase the number of new program options [2-F, 2-H]</p> <p>D. Establish plan for developing undergraduate degree programs that includes elements of experiential learning [2-A]</p> <p>E. Develop a plan to introduce undergraduate research experiences into ET programs [1-H]</p> <p>F. Develop a plan to introduce entrepreneurial experiences into ET program option</p>	<p>A. Increase number of BS graduates to 50 per year [2-F]</p> <p>B. Number of distance courses offered annually increases to 10 [2-F]</p> <p>C. Number of new ET program options increases to 2, and number of engineering programs increases by 1 [2-F]</p> <p>D. 30% of programs contain elements of experiential learning that includes ‘model factory’ and an international experience [2-A]</p> <p>E. Undergraduate research is integrated into 30% of ET options and engineering programs and is linked to research conducted in the ‘Innovative Manufacturing Institute’ and the ‘Bulk Solids Innovation [1-H]</p> <p>F. Entrepreneurial experiences are integrated into 30% of courses</p>	<p>A. Increase number of BS graduates to 100 per year [2-F]</p> <p>B. Degree programs make optimal use of distance course delivery [2-F]</p> <p>C. Number of new ET program options increases to 5, and number of new engineering programs increases to 2 [2-F]</p> <p>D. 75% of programs contain elements of experiential learning that includes ‘model factory’ and an international experience [2-A]</p> <p>E. Undergraduate research is integrated into 75% of ET options and engineering programs and is linked to research conducted in the ‘Innovative Manufacturing Institute’ and the ‘Bulk Solids Innovation Center’ [1-H]</p> <p>F. Entrepreneurial experiences are integrated into 75% of courses</p>

<p>5. Integrate undergraduate studies with applied research and commercialization opportunities.</p> <p>6. Link industrial and academic experiences to a final-year applied research project that clearly identifies a cost-benefit analysis in terms of cost reductions, new intellectual property developments, and new product and process design.</p>			
<p>THEME V – FACULTY AND STAFF</p> <p>Establish conditions that attract the best faculty and staff and allow existing employees to develop professionally and to engage in entrepreneurial activities associated with the various institutes, departments, centers on campus, and beyond.</p> <p>1. Expand the number of tenure-track faculty in the department.</p> <p>2. Expand the numbers of support staff in order to support the efforts to realize our land-grant mission especially in the areas of applied research and entrepreneurial activities.</p> <p>3. Establish a diverse workforce in order to attract a diverse student body.</p> <p>4. Provide endowments in order to capture and reward the best faculty and staff.</p> <p>5. Establish a climate of support for faculty to maintain professional competencies through appropriate professional development.</p> <p>6. Nominate faculty and staff to national and international award nominations.</p>	<p>A. Increase number of new tenure-track faculty members to 2 and increase number of new technicians to 1 [5-B, 5-C]</p> <p>B. Establish endowed chair in the ET department [5-B, 5-C, 5-D]</p> <p>C. Develop a plan to increase regional/national/global recognition of faculty excellence [5-C, 5-D, 5-E]</p> <p>D. Develop a program by which any faculty member can apply for support to maintain and enhance his/her professional competencies to learn new technologies/techniques to incorporate into teaching, applied research and engagement programs [5-B]</p>	<p>A. Increase number of new tenure-track faculty members to 6 and increase number of new technicians to 2 [5-B, 5-C]</p> <p>B. Establish 2 endowed professorships in the ET department [5-E, 5-F]</p> <p>C. The number of professors nominated for excellence award increases to 2 [5-D]</p> <p>D. Create a fund to support the professional development program</p>	<p>A. Increase number of new tenure-track faculty members to 12 and increase number of new technicians to 4 [5-B, 5-C]</p> <p>B. Establish 4 endowed professorships in the ET department [5-E, 5-F]</p> <p>C. The number of professors nominated for excellence award increases to 4 [5-D]</p> <p>D. The professional development program and funds created are available to any faculty member who demonstrates the need to develop (or redevelop) professional competency that supports the faculty member's and department's strategic direction and growth [5-B]</p>

<p>THEME VI – FACILITIES AND INFRASTRUCTURE.</p> <p>Establish facilities and infrastructure that will serve the department in its mission to provide a world-class education to student learners.</p> <p>1. Plan, build, and develop a world class ‘Innovative Manufacturing Institute’ and associated facilities that will realize the Theme I (RSCAD) mission of the department.</p> <p>2. Plan, build, and develop a ‘Model Factory’ and associated facilities that will realize the Theme II (Undergraduate Experience) mission of the department.</p> <p>3. Plan, build, and develop an ‘Entrepreneurial Hothouse’ and associated facilities that will realize Theme III (Graduate Scholarly Experience) mission of the department.</p> <p>4. Identify funding streams with the KSU Foundation to develop world-class facilities and infrastructure in the existing Technology Center.</p>	<p>A. Develop plans to increase fundraising goals to build a ‘Model Factory,’ an ‘Innovative Manufacturing Institute,’ an ‘Entrepreneurial Hothouse’ and associated facilities</p> <p>B. Develop plan to increase the utilization of laboratories in each program area and to fund the development of laboratories in each program area [6-D]</p>	<p>A. \$10M funds in place to build ‘Model Factory’ and associated facilities</p> <p>B. Minimum utilization of classrooms and laboratory facilities to exceed 30% - funds in place to develop new laboratories and associated facilities [6-D]</p>	<p>A. \$20M funds in place to build ‘Innovative Manufacturing Institute,’ ‘Entrepreneurial Hothouse,’ and associated facilities</p> <p>B. Minimum utilization of classrooms and laboratory facilities to exceed 50% - funds in place to develop further laboratories and associated facilities based on market need and available resources [6-D]</p>
--	---	--	---

4a. What resources and/or opportunities exist for your Department to achieve its vision and outcomes?

Existing resources include existing faculty, staff, students and alumni support. Physical resources include laboratories offices, equipment and instrumentation. Opportunities for further future funding includes federal government agency and focused state agency funding, international foreign government and state funding, industrial funding, corporate and private donations, and funding from entrepreneurial activities generated by university-based businesses.

4b. What resources and/or opportunities are needed for your Department to achieve its vision and outcomes?

Dedicated research faculty, additional faculty and staff, highly skilled research technicians, new laboratories, renovation of existing facilities, construction of a model factory, an innovative manufacturing institute, and an entrepreneurial hothouse, provision of scholarships and fellowships, faculty teaching and research awards, endowed chairs and professorships, and funding for sabbatical leaves of absence.

5. How do you propose to acquire the resources needed for your Department to accomplish its vision and outcomes?

Coordinated efforts by administrators, faculty, and staff to acquire funding are critical to achieve our goals for the future. Partnerships especially with the public/private sectors are crucial in addition to working with our partners at the K-State Foundation. A concerted effort is required by the Department Head to lead large multi-, inter- and cross-disciplinary grants, and a coordinated effort is required by all faculty and staff members to acquire funds, which aligns with the department’s objectives and goals. For successes associated with the entrepreneurial

hothouse, a focused effort to work with angel investors and venture capitalists must be done with department(s) associated with this type of activity at other K-State campuses.

6. How does your plan link to the K-State 2025 University Benchmark Metrics, Common Elements, and Thematic Goals, Outcomes, and Metrics?
(See *below*)

6. Departmental Links to K-State 2025 University Benchmark Metrics, Common Elements, and Thematic Goals, Outcomes, and Metrics

Links to Benchmark Metrics
B-1 - Total research and development expenditures B-2 - Endowment pool B-4 - Number of faculty awards B-5 - Number of doctorates granted annually B-6 - Freshman-to-sophomore retention rate B-7 - Six-year graduation rate B-8 - Percent of undergraduate students involved in research

Links to Common Elements
CE-1 - Communications and Marketing CE-2 - Culture CE-4 - External Constituents CE-5 - Funding CE-6 - International CE-8 - Technology

Links to University Thematic Goals, Outcomes, and Metrics			
Links to 2025 Thematic Goals and Metrics	Links to Short Term Outcomes (2011 – 2015)	Links to Intermediate Outcomes (2016 – 2020)	Links to Long Term Outcomes (2021 – 2025)
<p>T1 - Research, Scholarly and Creative Activities, and Discovery (RSCAD)</p> <p>Theme 1 Metrics:</p> <p>T1-1 - # of interdisciplinary research projects, institutes, and centers</p> <p>T1-2 - Total sponsored extramural funding expenditures</p> <p>T1-4 - # of refereed scholarly publications per academic year and allocated faculty member</p> <p>T1-5 - Total international research and development expenditures</p>	<p>T1-A - Increased intellectual and financial capital to support RSCAD</p> <p>T1-B - More clusters/centers of collaborative RSCAD focus</p> <p>T1-C - Increased funding for investigator-based research, research centers, and graduate training grants</p> <p>T1-F - Enhanced and systematic approach for UG research</p> <p>T1-H - Enhanced visibility and appreciation for research, discovery, and scholarly and creative activities</p>	<p>T1-I - Intellectual and financial capital in place for expanded RSCAD efforts</p> <p>T1-J - Greater proportion of nationally and internationally recognized award-winning faculty in RSCAD programs</p> <p>T1-K - Nationally and internationally recognized research centers</p> <p>T1-M - Increased participation by undergraduates in expanded opportunities in research</p>	<p>T1-O - Extramural funding competitive with our benchmark institutions</p> <p>T1-P - Research and development expenditures competitive with benchmark institutions</p> <p>T1-Q - Competitive amongst our peers in the percentage of undergraduates involved in research</p>
<p>T2 - Undergraduate Educational Experience (UEE)</p> <p>Theme 2 Metrics:</p> <p>T2-1 - # and % of undergraduate students participating in a meaningful international experience</p> <p>T2-2 - # and % of undergraduate students completing an experiential learning experience</p>	<p>T2-B - Engaged students benefitting from high impact educational practices used by excellent faculty and staff across the university</p> <p>T2-C - Increased participation by undergraduates in expanded opportunities for meaningful research</p> <p>T2-D - Successful integration of</p>	<p>T2-J - Excellent reputation for high quality teaching and advising that prepares students for their professional, community, social, and personal lives</p> <p>T2-K - Superior and diverse faculty recognized for teaching excellence</p> <p>T2-M - Increased undergraduate contributions in the creation of</p>	<p>T2-P - Faculty teaching and advising awards comparable to our benchmark institutions</p> <p>T2-Q - Freshman to Sophomore retention ratios comparable to benchmark institutions</p> <p>T2-R - Six-Year graduation rates comparable to benchmark institutions</p>

Links to University Thematic Goals, Outcomes, and Metrics			
Links to 2025 Thematic Goals and Metrics	Links to Short Term Outcomes (2011 – 2015)	Links to Intermediate Outcomes (2016 – 2020)	Links to Long Term Outcomes (2021 – 2025)
<p>T2-6 - % of undergraduate enrollment by demographic group</p> <p>T2-7 - Student satisfaction and utilization rates</p>	<p>undergraduate education and meaningful research is standard practice</p> <p>T2-E - Effective evaluation practices that recognize and reward teaching, advising, and life-long learning/professional development</p> <p>T2-F - Effective system in place that supports and promotes teaching excellence</p> <p>T2-G - Successful recruitment and retention strategies that address our entire student population</p> <p>T2-H - Improved six-year graduation rates and retention ratios</p>	<p>scholarship through research</p> <p>T2-N - Ongoing improvement of six-year graduation rates and retention ratios</p>	
<p>T3 - Graduate Scholarly Experience</p> <p>Theme 3 Metrics:</p> <p>T3-1 - # and % of graduate students with assistantships, endowed scholarships, and fellowships</p> <p>T3-2 - Total funds awarded for graduate assistantships, endowed scholarships, and fellowships</p> <p>T3-4 - # of private/public sector partnerships supporting graduate experiential training opportunities</p> <p>T3-5 - # of graduate students participating in a unique high level learning and experiential training</p> <p>T3-7 - Total graduate students enrolled by demographic group and degree type</p>	<p>T3-A - Competitive compensation and support available for GRAs, GTAs, and GAs</p> <p>T3-D - Outstanding mentoring for our graduate students</p> <p>T3-G - Broader spectrum and greater overall number of courses offered at the graduate, and especially at the PhD level</p> <p>T3-H - Expanded partnerships with industry and government to provide high level learning and experiential training opportunities for graduate students</p>	<p>T3-I - Increased participation by our graduate students in unique high level learning and experiential training</p> <p>T3-J - Expanded reputation for outstanding graduates with the critical skill sets needed to excel in their careers in a global environment</p> <p>T3-K - Increased funding for graduate research and teaching</p>	<p>T3-N - National and international reputation for outstanding graduates with demonstrable career success</p> <p>T3-P - Stable funding for graduate research and teaching competitive with benchmark institutions</p>

Links to University Thematic Goals, Outcomes, and Metrics			
Links to 2025 Thematic Goals and Metrics	Links to Short Term Outcomes (2011 – 2015)	Links to Intermediate Outcomes (2016 – 2020)	Links to Long Term Outcomes (2021 – 2025)
<p>T5 - Faculty and Staff</p> <p>Theme 5 Metrics:</p> <p>T5-1 - # of national and international faculty awards</p> <p>T5-2 - # and % of faculty with endowed chairs, professorships, and fellowships</p> <p>T5-4 - # and % of faculty and staff participating in international experiences</p> <p>T5-7 - % of faculty and staff reporting satisfaction in the work environment</p>	<p>T5-C - Career-long learning recognized by the university and its employees as a shared value and responsibility</p> <p>T5-D - Effective evaluation processes that result in accountable faculty and staff with a clear understanding of their job expectations and how they contribute to the University's mission</p>	<p>T5-F - Faculty and staff current with developments in their fields and the skills needed to achieve excellence in performing their jobs</p> <p>T5-G - Successful recruitment and retention of a talented and high performing, diverse workforce</p>	<p>T5-H - Talented and high performing, diverse workforce recognized for excellence and award-winning faculty and researchers</p> <p>T5-J - Optimal number of faculty and staff comparable with our benchmark institutions</p>
<p>T6 - Facilities and Infrastructure</p> <p>Theme 6 Metrics:</p> <p>T6-2 - Total expenditures for physical facilities and infrastructure projects</p> <p>T6-4 - Total funding available to support facilities and infrastructure needs</p>	<p>T6-A - Responsive, timely, and strategic facilities services aligned with campus operational needs as well as future planning and implementation</p>	<p>T6-E - Enhanced campus community experience and collaborative learning and working environments promoted by facilities that support multidisciplinary work and integrated interaction between students, faculty, researchers, staff, and administrators</p>	<p>T6-G - High quality, technology enabled, flexible and adaptable classroom space appropriate to the evolving needs of the learning environment and readily available to K-State faculty and students</p> <p>T6-H - High-quality research laboratories and specialty spaces that enhance research and scholarly activities</p>