K-State 2025 Strategic Action and Alignment Plan
College or Major Unit: Agriculture & K-State Research and Extension
Department: Entomology

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?**

Our Strategic Vision: Become one of the Top 5 Departments of Entomology in the United States. We are currently ranked #8 by the National Research Council's Assessment of Doctorate Programs among all entomology and entomology-related departments in the United States offering PhD degrees. The NRC assessment integrates many of the metrics of critical interest to our department, including scholarly publications, research funding, instructional quality, PhD student mentoring, student experience, and other valuable measurements. The NRC rankings will be used to evaluate our progress.

Our Mission:
- Provide entomological knowledge for safe, sustainable, and competitive plant, animal, and human health through integrated research and education
- Maintain a stakeholder/clientele-driven focus to research, extension, and teaching
- Generate knowledge to advance science, society, and our environment
- Train students for professions in education, government, business and industry
- Disseminate useful, unbiased information

Success in achieving our strategic vision will support and accelerate the K-State 2025 Vision by strengthening institutional research quality (Theme 1); broadening educational and research experiences for undergraduate and graduate students (Themes 2 and 3); strengthening extension and outreach delivery and engagement (Theme 4); supporting recruitment, development, and retention of students, staff, and faculty (Theme 5); and enhancing and optimizing use of facilities (Theme 6).

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.) Links to College of Agriculture Strategic Plan Outcomes are noted as "[CoA x]", where "x" represents the specific outcome.*

Key Activities	Short Term (2013 - 2015) Key Outcomes	Intermediate (2016 - 2020) Key Outcomes	Long Term (2021 - 2025) Key Outcomes
What we plan to do…	*What we expect to happen…*	*What we expect to happen…*	*What we expect to happen…*
Strengthen department efficiency (IT and personnel) to allow office staff, students, research staff, and faculty to be more productive and creative in all aspects of their jobs **[addresses KSU 2025: T2-7, T3-8, T5-7, T6-5]**	1. Establishment of a short-term committee that addresses immediate software and hardware needs, as well as a plan to develop a significant web presence 2. A portion of office operations automated to relieve the most pressing inefficiencies (e.g., PO	1. A standing committee that continues to address IT efficiency needs 2. Completion of all Departmental IT needs 3. An improved web presence for the Department, its research areas, faculty, and research	1. An efficient Department 2. A significant web presence 3. Office staff personnel with balanced responsibilities 4. Overall satisfaction by nearly all persons in the Department with the day-to-day operations of Departmental Business

	System and Graduate Forms) 3. Redistribution of some office responsibilities (by Dept. Head) **[CoA: L, Q]**	opportunities **[CoA: L, Q]**	**[CoA: L, Q]**
Enhance and strengthen Graduate Student training, research, and funding *[addresses KSU 2025: T3-1, T3-2, T3-4, T3-5, T3-6, T3-8]*	1. Appoint a graduate program coordinator 2. Develop a plan to enhance graduate student research, extension, and/or teaching training with non-PI labs, including private sector, national and international opportunities 3. Develop a plan to have all PhD students apply for at least one fellowship, scholarship, or extramural award during program **[CoA: A, C, D, E, F, H]**	1. Approximately half of our graduate students will have, or will have had, a "unique" research, extension, and/or teaching training opportunity during their programs 2. Approximately half of our PhD students will apply, or would have applied, for at least one fellowship, scholarship, or extramural award during their programs **[CoA: A, C, D, E, F, H]**	1. At least 75% of graduate students matriculating through our program will participate in a "unique" training opportunity 2. At least 75% of PhD students matriculating through our program will apply for at least one fellowship, scholarship, or extramural award **[CoA: A, C, D, E, F, H]**
Develop a Departmental undergraduate research/extension program *[addresses KSU 2025: T2-1, T2-2, T2-3, T2-5, T2-7, T4-1]*	1. Appoint an undergraduate research and extension coordinator 2. Develop a plan to recruit and place undergraduate students into each faculty member's lab (including both on- and off-campus faculty) **[CoA: A, B, C, D, E]**	1. Approximately half of our faculty will have at least one undergraduate work in their labs each year 2. At least half of the undergraduates participating in our research programs will present their research or extension activities at a local, regional, national, or international meeting 3. Develop a plan to have successful undergraduates in our program apply for scholarships and, or fellowships **[CoA: A, B, C, D, E]**	1. Average one undergraduate student per faculty member trained each year 2. At least 75% of undergraduates participating in our research programs will present their research at a local, regional, national, or international meeting 3. Successful undergraduates will apply for at least one scholarship or fellowship **[CoA: A, B, C, D, E]**
Enhance the capacity of our research programs, and their experiential value for graduate students *[addresses KSU 2025: T1-1, T1-2, T1-3, T1-4, T1-5, T3-1, T3-2, T3-3, T5-3, T5-4]*	1. Increase the salary and competitive compensation for GRAs to at least $25,000 annually and for postdoctoral researchers to regionally competitive levels. 2. Increase extramural grant submissions to 2 per FTE annually 3. Increase number of refereed publications per FTE to $\geq$ 3 per	1. Maintain salary and compensation for GRAs and postdoctoral researchers at rates competitive with regional peers. 2. Maintain at least 2 extramural grant submissions per FTE annually 3. Maintain number of refereed publications per FTE at $\geq$ 3 per	1. Maintain salary and compensation for GRAs and postdoctoral researchers at rates competitive with regional peers. 2. Maintain at least 2 extramural grant submissions per FTE annually 3. Maintain number of refereed publications per FTE at $\geq$ 3 per

	year 4. Increase number of faculty engaged with international collaborators to 25% **[CoA: A, C, D, E, F, G, H, I, L]**	year 4. Increase number of faculty engaged with international collaborators to 50% **[CoA: A, C, D, E, F, G, H, I, L]**	year 4. Maintain number of faculty engaged with international collaborators at ≥ 50% **[CoA: A, C, D, E, F, G, H, I, L]**
Improved research facilities and infrastructure to enhance research productivity and capacity *[addresses KSU 2025: T1-1, T6-4, T6-5]*	1. Develop or acquire software system for databasing extramural awards, reporting schedules, deadlines, spending policies, and so on, and identify the baseline data for key outcomes. 2. Develop a space plan for improving available research space (greenhouses, climate chambers, equipment) and conference space. 3. Identify the area(s) for establishing a physical "Center" in arthropod research. 4. Develop a proposal to expand and enhance research and teaching space for arthropod-related studies (genomics, vector biology, biosecurity, climate change, etc.) in a new building. **[CoA: A, D, F, G, H, L, P, Q]**	1. Maintain and improve the database system. 2. Utilize space plan to more efficiently utilize current research space and to initiate critical renovations. 3. Characterize participants and available resources to develop proposal for Center in Arthropod Science and coordinate development of initial grant proposal. 4. Secure funding resources to initiate construction of new Arthropod Science Center. **[CoA: A, D, F, G, H, L, P, Q]**	1. Maintain and improve the database system. 2. Greatly improved research space efficiently used. 3. Increase number of faculty participating in the Arthropod Science Center, interdisciplinary, and multi-institutional programs by 10-15%. 4. Complete Arthropod Science Center, integrating personnel and resources to enhance productivity in target areas (genomics, vector biology, biosecurity, climate change, etc.). **[CoA: A, D, F, G, H, L, P, Q]**
Improved teaching facilities: wet labs, technology classrooms, and classrooms under direct departmental rather than university classroom scheduling *[addresses KSU 2025: T2-2, T2-7, T6-1]*	1. Develop a plan for teaching space currently in place and for possible new acquisitions that addresses the need for wet lab and technology teaching spaces. **[CoA: A, B, D, P]**	1. Funding agencies will be identified that will support significant infrastructure and equipment upgrades and proposals will be submitted to them. Fundraising opportunities will be identified and developed. **[CoA: A, B, D, P]**	1. Improved departmental facilities with renovated wet laboratories, increased number of technology classrooms, and increased number of classrooms over which the department has control. **[CoA: A, B, D, P]**
Strengthen and encourage professional development at all levels *[addresses KSU 2025: T3-8, T5-7]*	1. Develop a plan that will allow and encourage professional development for students, staff, and faculty. **[CoA: A, B, D, F, G, L, O]**	1. At least half of students, staff, and faculty will participate in some form of professional development each year. **[CoA: A, B, D, F, G, L, O]**	1. All students, staff, and faculty will participate in some form of professional development each year. **[CoA: A, B, D, F, G, L, O]**

Increase recognition of faculty *[addresses KSU 2025: T5-1, T5-2, T5-7]*	1. The Departmental Awards Committee will identify a wide range of potential national and international awards and fellowships **[CoA: G, L]**	1. The Departmental Awards Committee will work to have at least 20% of faculty nominated for, or apply for, awards and fellowships each year. **[CoA: G, L]**	1. In any five-year period, at least 50% of all faculty will have been nominated for, or applied for, at least one national/ international award or fellowship. **[CoA: G, L]**
Be the preferred source of Entomology information for all stakeholders *[addresses KSU 2025: T1-1, T6-4, T6-5]*	1. Start improving infrastructure for best delivery of information, 2. Update, revise, and improve information productions developed prior to 2000, 3. Inventory all Extension, Engagement, and Outreach products generated in Department **[CoA: G, J, K]**	1. Have all inventoried Extension, Engagement, and Outreach information available in electronic format **[CoA: G, J, K]**	1. Electronic Extension, Engagement, and Outreach information is fully integrated with other Entomology, KSU, and Clientele networks. Regular updates, surveys for new information needs and delivery methods on an annual cycle. **[CoA: G, J, K]**
Generate and disseminate high-quality and relevant information that will help solve problems for clientele *[addresses KSU 2025: T4-3, T4-4, T4-5]*	1. Submit intra- and extramural proposals and/or collect revenues to supplement base funds and support 3.0 faculty FTEs or more in Extension 2. Identify key stakeholders and establish a stakeholder advisory group for the department **[CoA: H, J, K, R]**	1. Stakeholder feedback is well-established and occurring on an annual basis 2. Obtain funding to boost departmental Extension FTEs to 3.5 **[CoA: H, J, K, R]**	1. Include stakeholders in annual meetings for input 2. Maintain funding to support at least 3.5 departmental Extension FTEs **[CoA: H, J, K, R]**
Engage children and youth (K-12), including schools, Insect Zoo, 4-H, FFA, and other groups on- and off-campus, emphasizing underserved student groups and locations *[addresses KSU 2025: T3-4, T3-5, T4-2, T4-3, T4-4, T4-5, T4-6]*	1. Assign K-12 outreach FTE to one or more Entomology faculty lines, 2. Incorporate K-12 program engagement into graduate student curricula 3. Foster contacts with local schools for delivery of entomology-centered science curricula **[CoA: C, D, J, K]**	1. Develop special media and resources to deliver K-12 off-campus program, such as "Program in a box", for application by non-KSU educators 2. Engage with local (e.g., Junction City) and at least two other more distant Kansas underserved school districts **[CoA: C, D, J, K]**	1. Engage with at least 6 Kansas underserved school districts providing entomology-centered science curricula to foster science education among underserved and at-risk students **[CoA: C, D, J, K]**

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

- We have a highly motivated faculty and staff who are committed to the success of the department and university, and who have been successful in scholarly productivity, as evidenced by refereed publications, grants awarded, invited presentations, and awards.
- We have active Memoranda of Understanding with multiple international institutions, and have active research programs with international colleagues and are mentoring a number of international graduate students in the department
- Entomology is a strength on campus, with linkages across departments, as well as through the USDA facilities in Manhattan
- Kansas State University houses the Ecological Genomics Institute, Arthropod Genomics Center, and Interdepartmental genetics Program, all of which are strongly linked to Entomology and provide strong collaborative opportunities
- The College of Agriculture has provided resources that have permitted us to renovate formerly antiquated lab and teaching space, and this renovated space will facilitate the function of the department in research, teaching, and extension

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

Our strategic plan incorporates some very ambitious goals, including a new building that will integrate all aspects of entomological sciences (ecology, evolutionary biology, genomics, field crop pest management, medical and veterinary/vector biology, remote sensing and sampling, stored products pest management, etc.). The needs are:

- Funds to support renovation of existing space, most of which is severely limiting and antiquated, for near-term progress
- Capital funding for development and construction of a building to house and integrate all arthropod-related research on campus
- Resources to incentivize the recruitment and retention of exceptional faculty, staff, and students
- Support to expand extension programming and personnel lines
- Funds to increase the number of graduate student assistantships and stipends and of research associate salaries, and to provide tuition waivers
- Resources to support experiential development opportunities for undergraduate and graduate students, staff, and faculty
- Information technology support for a system to more efficiently address procurement, inventory, sponsored funding, and travel processing; and to improve departmental website aesthetic and functionality

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

- Request support from central administration and the College of Agriculture for short-term renovations of existing space
- Request administrative support for addition of at least one Extension FTE
- Identify and encourage potential donors to support student funding and capital projects
- Increase acquisition of extramural funds to support research, teaching, and extension activities
- Continue nurturing international linkages to build long-term research and teaching opportunities

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-8 - Percent of undergraduate students involved in research

Links to Common Elements
CE-1 - Communications and Marketing
CE-2 - Culture
CE-3 - Diversity
CE-4 - External Constituents
CE-5 - Funding
CE-6 - International
CE-7 - Sustainability
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)
T1 - Research, Scholarly and Creative Activities, and Discovery (RSCAD) **Theme 1 Metrics:** T1-1 - # of interdisciplinary research projects, institutes, and centers T1-2 - Total sponsored extramural funding expenditures T1-4 - # of refereed scholarly publications per academic year and allocated faculty member T1-5 - Total international research and development expenditures	T1-A - Increased intellectual and financial capital to support RSCAD T1-B - More clusters/centers of collaborative RSCAD focus T1-C - Increased funding for investigator-based research, research centers, and graduate training grants T1-E - Competitive compensation and support available to GRAs, GTAs, and GAs T1-F - Enhanced and systematic approach for UG research T1-G - Successful recruitment, retention, evaluation, compensation, and rewards strategies in place to support RSCAD needs T1-H - Enhanced visibility and appreciation for research, discovery, and scholarly and creative activities	T1-I - Intellectual and financial capital in place for expanded RSCAD efforts T1-J - Greater proportion of nationally and internationally recognized award-winning faculty in RSCAD programs T1-K - Nationally and internationally recognized research centers T1-L - Recognized for prominent and productive placement of our graduates T1-M - Increased participation by undergraduates in expanded opportunities in research	T1-O - Extramural funding competitive with our benchmark institutions T1-P - Research and development expenditures competitive with benchmark institutions T1-Q - Competitive amongst our peers in the percentage of undergraduates involved in research

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)**
T2 - Undergraduate Educational Experience (UEE) **Theme 2 Metrics:** T2-2 - # and % of undergraduate students completing an experiential learning experience T2-7 - Student satisfaction and utilization rates	T2-B - Engaged students benefitting from high impact educational practices used by excellent faculty and staff across the university T2-C - Increased participation by undergraduates in expanded opportunities for meaningful research T2-D - Successful integration of undergraduate education and meaningful research is standard practice T2-E - Effective evaluation practices that recognize and reward teaching, advising, and life-long learning/professional development	T2-J - Excellent reputation for high quality teaching and advising that prepares students for their professional, community, social, and personal lives T2-K - Superior and diverse faculty recognized for teaching excellence T2-L - All UG students engaged in a diversity of experiences that expand their viewpoint T2-M - Increased undergraduate contributions in the creation of scholarship through research	T2-O - An undergraduate educational experience recognized as one of the best among the nation's Top 50 Public Research Universities T2-P - Faculty teaching and advising awards comparable to our benchmark institutions
T3 - Graduate Scholarly Experience **Theme 3 Metrics:** T3-1 - # and % of graduate students with assistantships, endowed scholarships, and fellowships T3-2 - Total funds awarded for graduate assistantships, endowed scholarships, and fellowships T3-3 - # and % of graduate programs offering competitive compensation and support packages T3-4 - # of private/public sector partnerships supporting graduate experiential training opportunities T3-5 - # of graduate students participating in a unique high level learning and experiential training T3-8 - Graduate student satisfaction and utilization rates	T3-A - Competitive compensation and support available for GRAs, GTAs, and GAs T3-C - Engaged graduate students integrated in university life with enhanced visibility and appreciation T3-D - Outstanding mentoring for our graduate students T3-E - Expectation of excellence for the graduate scholarly experience T3-F - Increased capacity to secure funding for graduate research and teaching T3-H - Expanded partnerships with industry and government to provide high level learning and experiential training opportunities for graduate students	T3-I - Increased participation by our graduate students in unique high level learning and experiential training T3-J - Expanded reputation for outstanding graduates with the critical skill sets needed to excel in their careers in a global environment T3-K - Increased funding for graduate research and teaching T3-L - Increased number of nationally and internationally recognized award-winning graduate faculty	T3-N - National and international reputation for outstanding graduates with demonstrable career success T3-O - World-class reputation as a preferred destination for outstanding graduate students T3-P - Stable funding for graduate research and teaching competitive with benchmark institutions T3-Q - Doctorates Awarded comparable with benchmark institutions

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)**
T4 - Engagement, Extension, Outreach and Service **Theme 4 Metrics:** T4-1 - # and % of undergraduate students participating in engagement/service learning T4-2 - Total extramural-funded expenditures for Engagement initiatives at the local, state, national, and international level T4-3 - # of partnerships by sector and geographic boundary supporting collaborative research, education, and engagement T4-4 - # of engagement activities and programs disaggregated by geographic boundaries T4-5 - # of participants involved in community-based research and outreach projects T4-6 - Economic impacts on rural and urban communities in Kansas	T4-A - Enhanced integration between academics and student service learning T4-B - Increased participation by undergraduates in expanded opportunities for meaningful Engagement experiences T4-C - Increased recognition of our services as a source of expertise, information, and tools for disciplines worldwide T4-D - Increased numbers and diversity of faculty and staff participating in Engagement T4-E - Increased extramural funding for Engagement initiatives at the local, state, national, and international level T4-F - Recognition as leaders in Engagement within our state and nation T4-G - Enhanced visibility and appreciation for Engagement and its interconnectedness with research and education within our university community	T4-H - Exposure on a national level as a leader/partner engaged in significant social, political, health, economic and, environmental issues T4-I - All undergraduate students engaged in at least one engagement /service learning project T4-J - Increased number of graduate students involved in Engagement T4-K - Increased appreciation by K-State graduates for lifelong involvement in engagement and service T4-M - Preferred destination for faculty, staff, and students who value Engagement as integral to their academic and personal lives	T4-N - Nationally recognized as a leader in and model for a re-invented and transformed land -grant university integrating research, education, and engagement T4-P - Recognized as a leader in Engagement reaching both rural and urban communities
T5 - Faculty and Staff **Theme 5 Metrics:** T5-1 - # of national and international faculty awards T5-2 - # and % of faculty with endowed chairs, professorships, and fellowships	T5-B - Efficient, effective, and integrated university HR processes and services that place employees in the right positions with the right skill sets at the right time T5-C - Career-long learning recognized by the university and its employees as a shared value and responsibility	T5-F - Faculty and staff current with developments in their fields and the skills needed to achieve excellence in performing their jobs T5-G - Successful recruitment and retention of a talented and high performing, diverse workforce	T5-H - Talented and high performing, diverse workforce recognized for excellence and award-winning faculty and researchers T5-I - Stable funding available for recruitment and retention of top level faculty and staff

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)**
T5-4 - # and % of faculty and staff participating in international experiences T5-7 - % of faculty and staff reporting satisfaction in the work environment			
T6 - Facilities and Infrastructure **Theme 6 Metrics:** T6-1 - # and % of technology enabled classrooms T6-2 - Total expenditures for physical facilities and infrastructure projects T6-4 - Total funding available to support facilities and infrastructure needs T6-5 - % of faculty, staff, and students reporting satisfaction with facilities and infrastructure	T6-A - Responsive, timely, and strategic facilities services aligned with campus operational needs as well as future planning and implementation T6-C - Robust and reliable information technology ensuring business continuity and consistent with the achievement of the highest quality levels of support for research, instruction, student services, and administration	T6-D - Adequate office space for all K-State employees equipped to support their work and productivity 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 T6-F - Efficient, reliable, and cost-effective central and building utilities with the capacity for expansion as needed to support campus needs and guarantee the safety, comfort, and integrity of our research, animal, and human environments	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 T6-H - High-quality research laboratories and specialty spaces that enhance research and scholarly activities T6-I - Well-maintained buildings, utilities, IT infrastructure, and grounds consistent with the expectations and image of a highly ranked land grant research and teaching institution T6-J - An excellent campus community experience supported by facilities and landscapes that enhance social interaction, learning and collaboration T6-K - Signature facilities that promote collaborative learning and working environments, multidisciplinary work, and integrated interaction between students, faculty, researchers, staff, and administrators