COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT (CAFE) SELF-STUDY: OPPORTUNITIES AND CONSTRAINTS FOLLOWING 2007 REVIEW
June 2013

SELF-STUDY ANALYSIS

As fully documented in the complete self-study materials, the CAFE has made remarkable progress in several areas of research, instruction, and extension since 2007. The following is an attempt to summarize both measures of progress and subjects for concern across all mission areas and programs of the College. The first section is organized according to the goals of the University and College Strategic Plans for 2009-2014.

Goal 1: Prepare Students for Leading Roles in an Innovation-driven Economy and Global Society

Most notable accomplishments and initiatives:

- Planning and analysis: The Land Grant Vision: College of Agriculture 2009-2014 Strategic Plan has provided a working document for both planning and tracking progress.
- Program innovation:
    - A new graduate curriculum in Integrated Plant and Soil Science was initiated in 2011, combining graduate programs from Horticulture and Plant and Soil Science Departments.
    - The Department of Retailing and Tourism Management was created through reorganization of undergraduate and other programs in merchandising and hospitality.
    - Nutrition and Food Science was reorganized and renamed Dietetics and Human Nutrition, along with multiple innovations in instructional delivery, advising, and enrollment management.
    - The Equine Science and Management program was formally approved, has grown rapidly and received national attention.
    - Interdepartmental programs in Ag Biotech, Natural Resource Conservation and Management, Equine Science and Management and Sustainable Agriculture generally continue a record of success and growth.
- The ratio of majors to teaching/advising faculty is less than 20/1 in 13 of 17 undergraduate programs.
- Enrollment in five targeted high capacity majors in biological and environmental sciences rose from 253 in the baseline year 2008-2009 to 315 in 2011-2012.
- The number of graduate degrees awarded rose from 97 in the baseline year 2008-2009 to 105 in 2011-2012.

Most significant challenges:

- First-to-second year, in-college retention rates have remained around 70% in spite of significant efforts to increase.

- College undergraduate majors have increased from approximately 1,100 in 2001 to approximately 2,600 in 2013. In several programs that have experienced significant enrollment growth, additional undergraduate enrollment will not be possible without additional faculty instructional DOE.
- Quality and quantity of classroom space on south campus has become limiting.
- Some classrooms and teaching labs are inadequately equipped.
- University-wide, and in the CAFE, freshman retention and six-year graduation rates are not up to the standards of Top 20 benchmarks.
- Advising and teaching quality remains inconsistent in a few programs.
- Graduate enrollment could be increased in the majority of College programs.

Goal 2: Promote Research and Creative Work to Increase the Intellectual, Social and Economic Capital of Kentucky and the World Beyond its Borders

Most notable accomplishments and initiatives:

- Scholarly productivity meets or exceeds expectations in most departments.
- Numerous research and development partnerships with the private sector have been initiated and had positive impact.
- The CAFE increased federal competitive grant awards from 33 percent to 41 percent of the College's extramural funding portfolio.
- The number of patents awarded on a four-year rolling average of five per year rose from 5.5 in 2008-2009 to 7.5 in 2011-2012.

Most significant challenges:

- Infrastructure and facilities limit the potential for continued growth of research:
    - Increasing operating costs and accumulating deferred maintenance threaten off-campus research facilities.
    - Our most distinguished and successful research programs have insufficient laboratory space for further expansion.
    - On-campus facilities for the environmental sciences and for Human Environmental Sciences are inadequate and aging.
- The research attainment of a few units in the College remains below expectations.
- Repeated budget cuts have reversed faculty expansion, created key vacancies and reduced research FTEs in some units.

Goal 3: Develop the Human and Physical Resources of the College to Achieve Top 20 Stature

Most notable accomplishments and initiatives:

- Faculty retention and tenure rates remain high.
- The Plant Pathology Department was ranked 1st nationally in the 2012 Academic Analytic Faculty Scholarly Activity Index. The Entomology and Plant Physiology Departments both ranked 11th nationally in the 2012 Academic Analytic Faculty Scholarly Activity Index.
- The College sustained a ranking of 15th in the Top 20 as indicated by NSF-reported research funding from USDA.

- From 2008-2009 to 2011-2012, over 7,750,000 square feet of educational, general, research, and student support space was added and utilized by CAFE faculty, staff, and students.
- Since 2007, national and internal searches for key faculty leaders were completed: Leigh Maynard, Chair of Agricultural Economics; Sue Nokes, Chair of Biosystems and Agricultural Engineering; Sandra Bastin, Chair of Dietetics and Human Nutrition; Ron Werner-Wilson, Chair of Family Sciences; Terrell Baker, Chair of Forestry; Robert Houtz, Chair of Horticulture; Ned Crankshaw, Chair of Landscape Architecture; Vanessa Jackson, Chair of Merchandising, Apparel and Textiles; Chris Schardl, Chair of Plant Pathology; Mats Troedsson, Chair of Veterinary Science; Darrell Johnson, Executive Director of the Division of Regulatory Services; Craig Carter, Director of the Veterinary Diagnostic Laboratory; and Tim West, Director of Finance and Administration.

Most significant challenges:

- Average compensation for faculty, senior staff and administrators has fallen significantly below national and regional standards.
- Infrequent opportunities for merit raises and salary adjustments have created wide ranges and some inequities in faculty compensation.
- Budget circumstances have constrained refilling faculty vacancies and creation of new positions. Further expansion of enrollment or grant funding is difficult without addition of faculty.
- Retention and compensation of highly skilled staff remains a challenge.
- Recruitment or development of faculty at the most distinguished level (e.g., academy-level) remains severely limited by budget cuts.
- The College endowment value rebounded from $68M in 2009 to $82M in 2012 yet spending distributions have continued to decline while costs increase, squeezing endowment-based spending.
- Infrastructure and capacity appear likely to constrain further growth and advancement in all mission areas, and across most units in the College. Limits have been reached in:
    - quantity and quality of lab space
    - ability to sustain Top 20 caliber farm and forest research capacity
    - office, meeting, and teaching space
    - IT and communications support and hardware
    - business management for rapidly growing operations.
- Many national metrics are size-dependent. We are a mid-size institution.
- National rankings in most agricultural disciplines are of limited validity.

<u>Goal 4: Promote Diversity and Inclusion</u>

Most notable accomplishments and initiatives:

- The percentage of enrolled undergraduate students from underrepresented groups increased from 9 percent in 2008-2009 to 12 percent in 2011-2012.
- The percentage of enrolled graduate students from underrepresented groups from increased 7 percent in 2008-2009 to 7.5 percent in 2011-2012.
- County Program/Civil Rights Reviews, including the development of Affirmative Action Plans, have been completed on cycle as mandated.

- A search was conducted for the Assistant Dean and Director of the Office of Diversity, resulting in the appointment of Quentin Tyler.

Most significant challenges:

- The College has yet to achieve targets in most areas. Diversity remains unacceptably limited in many departments and program areas.
- At the faculty level, both gender and racial diversity are inadequate.
- Substantial efforts are being made to hire and retain county agents from under-represented groups; progress is steady but slow.

Goal 5: Improve the Quality of Life for Kentuckians through Extension, Outreach and Service

Most notable accomplishments and initiatives:

- Extension funding from county-level sources has increased significantly, allowing staffing and programming statewide to be sustained in the face of tight state and federal budgets.
- Participation rates, grassroots supports and county-level facilities appear to be among the best in the nation.
- Cooperative Extension Service contacts reported have been sustained at more than 7 million since 2008.
- Annual data reported for clientele contacts in each priority program area for Extension increased from 246,388 in 2008-9 to 294,303 in 2011-2012.
- The College increased grantsmanship in Extension or Integrated Projects from 86 new or revised grants totaling $8,031,417 in 2008-2009 to 132 new or revised grants totaling $8,909,188 in 2011-12.
- The Community and Economic Development Initiative for Kentucky (CEDIK) has generated new energy, visibility and impact for this “fourth mission area” with an interdepartmental structure integrating extension and research. The KY Small Business Development Centers recently joined the college’s community and economic development efforts.
- The Veterinary Diagnostic Lab has occupied the renovated and expanded facility, restaffed, markedly enhanced many services, and attained very positive recognition from both peers and clientele.
- Regulatory Services recently reorganized staff and made many substantial changes to contain costs and improve services.
- Numbers of accessions and income have generally been increasing at both the Veterinary Diagnostic Lab and Regulatory Services.

Most significant challenges:

- Budget cuts combined with turnover have created critical capacity shortages in key areas, including family and consumer science, health/wellness, community and economic development, and program and staff development.
- Extension’s role in health programs such as the National Extension Primary Health Care initiative should be carefully reviewed.
- Cuts in state funding of mandated programs and increasing burdens on alternative funds sources, including county extension funds.

- New communication/information tools are available and being adopted, but keeping up with rapid changes in technology and culture remains a challenge.
- The expectation for graduate education for agents has been established. However, accessible and appropriate graduate degree options are being developed slowly. Operating funds for extension, teaching and some applied research are increasingly limited. Reliance on extramural sources necessarily increases. Not all faculty and staff have successfully adjusted to this shift.

INFRASTRUCTURE AND CAPACITY ISSUES

1) On-campus space was most frequently identified by academic departments as limiting future growth and advancement. The most limiting space category (laboratory, office, conference, teaching) is dependent upon the department.

Planning and design for an on-campus USDA-ARS research facility has been completed. However, recent developments in the federal budget have postponed full funding and construction indefinitely.

The College's highest priority request for a state-funded capital project is listed as a "Natural Resources Building." As this has not advanced on the University of Kentucky priority list, plans and specifications remain vaguely defined.

Opportunities for acquiring additional space through capital construction are likely to be limited. In fact, the University of Kentucky plans may be directing capital investments away from the type of space most likely to address the needs of agriculture on south campus. University priorities appear to be moving towards the medical center enterprise, large multidisciplinary research facilities (BBRSB), and added classroom space on central campus. CAFE priorities will need to be well justified within the context of university plans, but may have some difficulty competing with a long list of university capital needs.

Renovation of existing space should be carefully evaluated as an option. Enhancement of sub-standard office and laboratory space in Scovell, Erikson, Cooper and Dimock could provide some opportunity for enhancement at lower cost than new construction. And some progress is being made with instructional space. Restoration of Cooper House should be affordable without state funding. The feasibility of acquiring off-campus property for non-academic functions could be evaluated. However, few such units would find that to be an appealing option.

We have initiated intensive space analyses in multiple buildings resulting in some significant space reassignments.

2) Off-campus facilities were less frequently identified as limiting in department plans but they did appear prominently for those departments that have the largest fraction of their research and instruction off-campus: Forestry, Animal and Food Sciences, Veterinary Science, Horticulture, and Plant and Soil Sciences. The College administration probably weighs this issue more heavily than most departments due to the increasing burden of infrastructure support, utility costs and maintenance that has historically been borne entirely at the College level.

The Facilities Management unit (formerly Management Operations) was operating with an annual deficit between $500K and $1M prior to about 2007. This deficit was consuming a large fraction of College reserves and salary savings. Since that time, deficits have been greatly reduced and compliance and management issues aggressively addressed. Facilities management leadership was replaced, while oversight and support by the Business Center and college administration was greatly increased. Some functions and services were re-evaluated and many costs have been moved from full college-level funding to a "user-pays" model.

In 2006 a major planning and development process for North Farms and the Equine Campus at Maine Chance was initiated. Many improvements in function, appearance and stewardship have been completed. However, several elements of the plan remain unfunded; continued fund-raising from private sources will be required.

Improvements at all four 4-H camps are a high priority for Extension leadership. In cooperation with the 4-H Foundation, funding has been secured for some cabin replacement and other enhancements. This initiative is continuing.

3) Expansion of personnel is not going to occur at a rate sufficient to move the College beyond the mid-size category of land grant colleges of agriculture. Planning and measures of success must adjust to that reality.

Reliable comparative data are scarce, but administrative observations suggest that support for technical and support staff on general fund, "hard" dollars, although diminished, remains as good as or better than at many benchmarks and regional peers. Expansion of staff support, and upgrading of staff classification and compensation, continues to occur primarily on extramural funds. We are likely to be even more dependent on such funding in the future. Notably, the wisdom of treating federal formula funds as if they were "hard" is now under review.

University of Kentucky is planning for a substantial increase in both students and faculty. In the College, undergraduate majors have more than doubled since 2001, but faculty growth has been non-existent. Increasing teaching demands on faculty have actually reduced faculty FTEs in research and extension. Clearly, this is limiting capacity in those mission areas.
Competitive support for graduate students is an increasing challenge for the academic departments. However, we believe that many of our departments are hard-funded for research assistantships at least as well as their benchmarks. It is improbable that future university or college budgets will redirect resources for additional graduate research assistantship support. Operation of doctoral programs, even at their current size, is dependent increasingly upon extramural dollars.

4) Program support encompasses business operations, computing and information technology, communications, and a wide variety of other infrastructure issues.

- College-level business operations have been reorganized and restaffed over the last 4-6 years. In response to new computing systems, greatly increased reporting and accounting requirements and increasingly complex operational mandates, the College Business Center staff has been slightly enlarged but greatly upgraded with regard to skill level.

- At the department level, ability to meet this higher level of business challenge is variable. Some units struggle to manage budgets and operations appropriately. Centralization or reorganization of these unit functions to the college level should be considered.
- Increased reporting requirements and growth in extramural funding, special projects and initiatives in recent years has stretched grants and project management staff to the limits, particularly post awards budget management. Further growth may require additional staff with a higher level of expertise.
- IT functions in the college have been intensively reviewed, planned and reorganized. The College and most departments have been aggressively investing in both staff and equipment. Challenges continue in security, uniformity of service and cost management.

Summary of Infrastructure and Capacity Issues

A decade of advancement in extramural funding, undergraduate enrollment, and extension operations place the CAFE in a position of strength, within the University of Kentucky and around the Commonwealth of Kentucky. The stature, level of excellence, and record of achievement has, by many measures, advanced substantially.

However, the College faculty and administration now perceive that further progress may be limited by current infrastructure, capacity and limited funding opportunities. We anticipate that this self-study and review will lead to a better analysis of the issues, refine new strategies for better use of current resources, improve definition of priorities, and refine our justification and plans for securing the resources needed to sustain advancement and enhanced impact, if not growth, in the next decade.

SELF-STUDY DEPARTMENTAL SUMMARY REPORTS

In November of 2012 all academic departments were instructed to complete an action plan. This request was initiated by the Dean as one element of the continuing college-level strategic planning process. These action plans are included in section 8 of the self-study materials. Chairs were asked to solicit broad-based input from their faculty on the action plans. Components required of all action plans include:

1. List and provide links to the most recent department level reviews, self-studies, strategic plans or annual reports.

   All departmental reviews, self-studies, strategic plans, and annual reports: http://www2.ca.uky.edu/deanadmin/faculty/reviews/program-review

2. Briefly list examples of major projects and initiatives, underway or in planning, for which your department provides leadership or is a primary collaborator.

Agricultural Economics:

- Kentucky Farm Business Management Program (KFBM) – A partnership between Ag. Economics and five Area Farm Management Groups, which assists member

farmers with financial performance, management practices, profitability, and tax returns.

- Kentucky Small Business Development Centers (KSBDC) – Ag Economics begins administration of 15 statewide offices in 2013 which assist small businesses with planning, consulting, training, and business resources.
- Community Economic Development Initiative of Kentucky (CEDIK) – Ag Economics is a major collaborator in this initiative which is a major recipient of external funding for extension and research, and employs several professional staff and graduate students.
- Food Systems Innovation Center (FSIC) – The department is an active partner in the, which delivers comprehensive assistance to local food producers and processors.
- Kentucky Ag Leadership Program (KALP) – Faculty and staff in Ag. Economics direct and coordinate this selective, intensive 18-month program for young agricultural and agribusiness professionals.
- University of Kentucky Income Tax Seminar Program – Ag Economics operates these seminars to deliver updated federal and state tax information throughout the state to tax preparers and related professionals.
- KyFarmStart Program – Led by Agricultural Economics faculty, this intensive whole farm management training program for farmers with fewer than ten years of experience, receives funding from the USDA-NIFA Beginning Farmer Rancher Program.
- Kentucky Equine Survey – Faculty in Ag Economics led this interdisciplinary study of all breeds of horses that contribute to Kentucky's signature industry. The study is a major initiative of UK Ag Equine Program, to which Ag Economics contributes leadership, research, teaching, and advising.
- Agricultural Economics contributes teaching and advising resources to three interdisciplinary undergraduate majors: Equine Science and Management, Natural Resource and Environmental Sciences, and Sustainable Agriculture.

<u>Animal & Food Sciences</u>

- Food System Innovation Center established; served over 400 clientele in 2 years.
- Continuation of or implementation of high-impact Extension programs including Master Cattleman, Master Grazer, Master Stocker, Applied Master Cattleman, Beef Certification, Horse College, 4-H Youth programs.
- Implemented and managed a new Equine Science and Management (ESMA) BS degree program; enrollment of 239 after 5 years.
- Faculty members are active collaborators in UKAg Equine Programs.
- Established UK Meat Cutting School which has received national interest.
- Currently establishing a partnership with UK Dining Services and departmental Food Systems to expose students to culinary expertise and promote expanded use of local food products on campus.
- Expanded Equine Science research efforts through new faculty hires.
- Primary collaborator with UK Health Care in the Saddle Up Safely initiative.
- Second Equine Youth Festival planned for 2013 – attendance of over 5,000 is expected.
- The Animal Science BS degree program has sustained growth to 260 students, in the midst of a new ESMA degree.

- Director/management of NIH Superfund grant for over $10 million.
- Managed and participated in Alltech-UK Nutrition Research Alliance and Alltech-UK Nutrigenomics Alliance.
- Provide leadership for DAIReXNET, the national dairy eXtension effort.
- Established and provide leadership for a new national eXtension Community of Practice on Small and Backyard Flocks.
- Developing a quality program in Precision Dairy Technologies that is recognized internationally.
- Scholarly approaches to Assessment of Learning Outcomes for the Animal Science degree.

Biosystems & Agricultural Engineering

- Engaging Partners in a Comprehensive Urban Watershed Project USEPA grant ($113,972), 2012-2014, Primary Contact - Dr. Carmen Agouridis
- Kentucky Industrial Assessment Center : Developing the Next Generation Energy Assessment Engineering Workforce via Classroom Education and Industrial Assessment Experience US-DOE grant ($1,878,273), 2011-2016, primary contact - Dr. Don Colliver
- Appalachian Research Initiative for Environmental Science Virginia Tech Foundation (Mining Companies) grant ($408,533), 2011-2016, primary contact - Dr. Richard Warner
- On-Farm Biomass Processing – Towards an integrated high-solids transportation/storage/processing system grant ($6,900,000), 2010-2014, primary contacts - Dr. Sue Nokes and Dr. Mike Montross
- Automated Tobacco Stripper and Sorter grant from Phillip-Morris International ($125,006), 2011-2013, primary contact - Dr. Larry Wells
- Compost Bed Dairy Barns USDA-NRCS ($264,000) and KADB-GOAP ($55,875) grants, 2010-2013, primary contact - Dr. Joe Taraba
- International Education and Training Program – Brazil Exchange Program grant from USDE FIPSE ($239,967), 2008-2012, primary contact - Dr. Tim Stombaugh
- Providing energy audits for farms with poultry, grain, dairy, and greenhouse production facilities in cooperation with USDA KADB-GOAP, 2010-2013, primary contact - Dr. Doug Overhults
- Kentucky Agricultural Weather Center ongoing UK CAFE initiative, primary contact – Mr. Tom Priddy
- Graduate Certificate for Stream and Watershed Science sponsored by BAE Department, approved by the UK Senate in 2012, primary contact – Dr. Carmen Agouridis
- Power Energy Institute of Kentucky (PEIK) sponsored by USDA-DOE, 2009-2013, primary contact – Dr. Don Colliver
- Agricultural Technology Management Program feasibility study sponsored by the BAE Department, 2012-present, primary contact – Dr. Sue Nokes
- Developed and conducting on-site control systems that meet new U.S. EPA environmental criteria and guidance documents, primary contact – Dr. Richard Warner
- Processing a U.S. Office of Surface Mining Experimental Practice that is expected to significantly change mining operations and achieve enhanced environmental protection while reducing coal mining cost, primary contact – Dr. Richard Warner

- Advanced Energy Design Guides for ASHRAE, primary contact – Dr. Don Colliver
- NRCS Water Quality Plan Regulation, primary contact – Dr. Steve Higgins

Community & Leadership Development

- Collaboration with Department of Educational Leadership Studies establishing joint, campus-wide Undergraduate Certificate in Leadership Studies.
- Revision of MS in Career, Technical, and Leadership Education (with CTE and CLD options) to an integrated MS in Community and Leadership Development, still allowing certified teachers to achieve Rank II certification.
- CLD faculty members are major contributors to Community and Economic Development in Kentucky (CEDIK).
- Nonprofit Leadership Initiative (NLI) strengthens and advances Commonwealth's nonprofit organizations through education, networking, consulting services, best practices, and resources.
- Center for Leadership Development builds leadership capacity in Kentucky through research, education, networks of leadership partners, and services.
- UK 4-H/FFA Field Day and Wildcat Leadership Workshop, sponsored and organized by CLD Agriculture Education faculty, brings hundreds of high school students to campus and recruits students for all College majors.
- Kentucky by the Numbers – Provides county-level data to assist county extension staff and others in program planning, grant development, etc.
- Kentucky Entrepreneurial Coaches Institute (KECI) provides educational experiences for leaders in tobacco dependent counties. They learn to coach individuals and work to build entrepreneurial-friendly cultures in rural settings.
- E-Discovery Challenge, associated with KECI, trains middle school teachers using its own curriculum who then teach students to launch new businesses.
- Host National Curriculum for Agricultural Science Education (CASE) Institute at UK, two-weeks of intensive professional development for secondary educators based on inquiry-based learning and science, technology, engineering, and mathematics integration in the classroom.
- "Community-Based Communication Campaigns for the Kentucky Farmers' Market," a College-funded service learning project in CLD 400 Agricultural Communications Campaigns, uses students to create a strategic communication campaign plan for Kentucky Farmers' Markets to raise public awareness and interest in KFMs and increase numbers and sales.
- The Community Communication Research Group (composed of CLD and non-CLD faculty, post-doc, and graduate students) has numerous focused, coherent research projects.
- "Globalizing Agricultural Education: Sustainable Agriculture, Food, and Rural Development," a USDA/NIFA funded project, facilitates College efforts to internationalize the curriculum.
- Building Community Leaders for Tomorrow Initiative develops leadership skills for extension agents and the community, stressing action through civic engagement.
- International experiences for students in Prague, rural Scotland, and Indonesia.

Dietetics & Human Nutrition

- USDA National Institute of Food and Agriculture (NIFA) Food, Nutrition & Health Program Planning leads Land-Grant University food and agricultural sciences by supporting research, education, and extension programs by providing funding at the state and local level and providing program leadership.
- Children, Youth and Families Education and Research Network (CYFAR-net) is a national network of Land Grant university faculty and county Extension educators working to support community-based educational programs for children, youth, parents and families.
- Superfund Community Action for Nutrition (SCAN) provides support and guidance to individuals and communities affected by exposure to Superfund chemicals. UK's nutrition education programs empower affected individuals to make more informed decisions about their diet and health and are an important community service for Kentuckians in proximity to Superfund sites.
- Academy of Nutrition and Dietetics (AND) Microwave Safety Working Group strives to improve the nation's health and advance the profession of dietetics through education in the Preparation and Reheating Foods in Microwave Ovens
- AND Dietetic Practice Groups (DPGs) network with organizations related to their special areas of interest. These opportunities for interaction provide a value for the DPGs by establishing networks with other organizations.
- eXtension Communities of Practice is a coordinated, Internet-based information system providing access to trustworthy, balanced, specialized information from Land-Grant University System faculty and staff experts on a wide range of topics.
- Universities Fighting World Hunger is a consortium of universities serving as a catalyst to mobilize universities across the nation and around the globe to make fighting hunger a core value of higher education institutions worldwide.
- The Kentucky Academy in Ghana and Education Abroad is sponsored by the UK School of Human and Environmental Sciences. UK students learn the history, culture and politics of Ghana, visit historical and cultural sites, visit the Kentucky Academy at Adjeikrom, and engage in a service learning activity.
- Kentucky Academy of Nutrition and Dietetics Public Policy – A student mentoring program for DHN students, affiliated with the Kentucky Dietetic Association
- Plate It Up! Kentucky Proud – Submitted recipes are modified by Dietetics and Human Nutrition students to make them healthier while retaining flavor. Those recipes that make it through a series of taste tests become part of the “Plate It Up” recipe catalog at http://www.kyproud.com/recipes.
- UK Healthy Campus Initiative - Students in NFS 315: Nutrition Issues in Physical Activity assessed physical activity and wellness opportunities on UK’s campus and developed interactive internet-based maps to promote exercise.
- COA Food Systems Innovation Center - The University of Kentucky Food Systems Innovation Center (FSIC) uses a multi-disciplinary approach to providing applied research solutions to Kentucky's food businesses.
- COA Sustainable Agriculture Food Systems Working Group - The Sustainable Agriculture and Food Systems Working Group was organized by Dean Scott Smith to plan and coordinate college programs in sustainability related issues and to strive to integrate current instructional, research and extension efforts
- COA Globalizing Agriculture Education Initiative

- HES Making Healthy Lifestyle Choices Initiative – Family and Consumer Sciences Extension agents encourage families to make proactive choices to improve individual health and well-being through diet, education, and regular physical activity

Entomology

- Kentucky Pesticide Safety Education (PSE) – Resources and information for certified private and commercial pesticide applicators in Kentucky
- Integrated Pest Management (IPM) – Supports the development of interdisciplinary IPM programs by developing crop manuals, factsheets, phenological models to predict seasonal occurrence of pests, current and historical data on pest abundance
- Interregional Research Project-4 (IR-4) – National program that facilitates registration of sustainable pest management technology for specialty crops and minor uses.
- 4-H Youth Development – Provides grade-specific information for students, parents, and teachers through website and a variety of educational events.
- University of Kentucky Pest Control Short Course – Annual event which attracts 500 representatives from the national pest management industry.
- Kentucky Cooperative Agricultural Survey – Cooperative program between the University of Kentucky and state and federal agencies to detect and monitor exotic plant pests and natural enemies.
- Kentucky Office of the State Entomologist – Responsible for the licensing of businesses and individuals who handle nursery stock for commercial purposes in Kentucky; collaborates with federal, state and local agencies in surveys of exotic pests and develops management tactics for exotic pests.
- National Leadership in the Entomological Society of America (ESA) – Four Entomology faculty members served as President of the ESA; currently, the Past-President, Treasurer, and Governing Board representative from the North Central region are from the Dept. of Entomology at UK
- Ohio Valley Entomological Association – Encourages and cultivates the professional development of students through continued sponsorship of an Annual Forum for students
- Agricultural Biotechnology (ABT) – Entomology faculty and staff play a major role in undergraduate advising, coordination of advising and required undergraduate research experiences, and teaching of multiple courses in this interdepartmental undergraduate major.
- Commercialization of research programs at University of Kentucky and the CAFE; Leadership for the UK Intellectual Property Committee; Liaison for IP/Commercialization for the CAFE.
- Invasive Species Working Group in the Environmental & Natural Resource Issues Task Force in the CAFE; Chair of organizing committee for the 3rd Invasive Species Conference in KY (April 2013).
- Center for Ecology, Evolution, and Behavior (CEEB) - Annual Symposium for graduate students and faculty, participants from UK, University of Louisville, University of Cincinnati, Centre College, Eastern KY, and Western KY.
- Bed Bug Research/Extension Program – Provides leadership for the College and University in addressing bedbug issues at UK, in Kentucky, and the United States; national and international recognition of this program.
- CAMTech Center for Arthropod Management Technologies – Links efforts of industry and academia (Iowa State and University of Kentucky) in effective

management of arthropod pests. (http://www.ent.iastate.edu/camtech/about)
- Urban Landscape Entomology Research/Outreach Program – Leadership for program within Kentucky

Family Sciences

- Faculty members in the Family Sciences Department provide leadership to the CAFE "Managing in Tough Times Initiative."
- Faculty members in the Family Sciences Department provide co-leadership to the externally funded Beginning Farmer and Rancher Program.
- The Family Sciences Department provides faculty supervision for students who complete their practicum in the University of Kentucky Family Center. The Family Center provides affordable clinical services to clients in central Kentucky.
- Faculty and graduate students in the Family Sciences Department provide support for programs developed to support military families in the Commonwealth.

Forestry

- Natural Resources and Environmental Science (NRES) Interdisciplinary Major at UK – Forestry personnel contribute to NRES leadership, instruction, and vision; currently one of our faculty members serves as chair of the NRES Steering Committee.
- Green Forests Work – 501c3 organization (~$500K per year extramural funding) housed in UK Forestry; dedicated to reclamation and reforestation of surface mined lands; involves approximately 1,500 community volunteers per year.
- Robinson Forest – Premier hardwood forest laboratory and teaching center for the Central Appalachian Region which informs land management and policy decisions for Kentucky and the region. Partners include universities, organizations, agencies.
- Center for Forest and Wood Certification – A wood and wood products cooperative designed to give small landowners, loggers, wood industry producers access to certified wood markets otherwise unavailable to them due to cost of entry.
- Toyota Sustainable Biomass Initiative – Partnership between Toyota North America and UK CAFE Departments of Forestry, Biosystems and Ag Engineering, and Plant and Soil Sciences to assess the potentials of sustainably producing and using biomass feedstocks at Toyota facilities in North America.
- Higher Education Recruiting Survey for Natural Resource and Forestry Institutions
- Southern Undergraduate Forestry Leadership Initiative - Southern NAUFRP program
- Southern Region New Faculty Development Initiative – Southern NAUFRP program
- White-nose syndrome in bats of Mammoth Cave National Park. USDA Forest Service Joint Fire Science Project. Partners include Forest Service Northern Research Station and National Park Service.
- White-nose syndrome in bats of the northern U.S. Rocky Mountains. Yellowstone Foundation. Partners include Cascadia Research Collective, CA Dept. of Transportation, Yellowstone National Park, and Bucknell University.
- Cumberland Mountain Black Bear Working Group with Tennessee Wildlife Resources Agency, National Park Service, U.S. Forest Service, KY Dept. of Fish and Wildlife, Tennessee State Parks, U.S. Geological Survey
- Eastern Elk Working Group – all wildlife agencies of eastern states with elk (KY, TN, WI, MI, PA, AR, VA, NC, WV, MO, and National Park Service)
- South-central Florida Black Bear Research Project – Disney Worldwide Conservation Fund, Archbold Research Station, Florida Fish and Wildlife

Conservation Commission, U.S. Fish and Wildlife Services, U.S. Air Force, local private cattle ranchers, Florida State Parks
- Kentucky River Palisades Working Group – The Nature Conservancy, U.S. Fish and Wildlife Services, local political officials, Kentucky State Nature Preserves Commission
- Optfuels program to minimize property loss from large-scale wildfire in Rocky Mountains (http://www.fs.fed.us/rm/human-dimensions/optfuels/main.php)
- Student exchange program between Universidad de Talca in Chile and UK CAFE
- UK Interdisciplinary Ph.D. program in Natural Resources
- Southeastern regional wood industry directory

Horticulture

- The department has a major initiative underway for the development of the Horticulture Research Farm (HRF) into a nationally recognized center of excellence for research and education in sustainable/organic production practices, environmentally sustainable infrastructure, and biofuel research. Parts of these efforts are in collaboration with the department of Biosystems and Agricultural Engineering. A long-term strategic plan for the HRF is currently being developed which includes energy and natural resource independence.
- The department provides significant leadership through faculty participation as instructors and advisors in the undergraduate Sustainable Agriculture Program. This program also utilizes the HRF for experiential learning opportunities through internships with the Community Supported Agriculture program which brings widespread public recognition to our department and the value of Horticultural enterprises.
- The department is planning on playing a significant role in international programs through faculty involvement in Education Abroad Opportunities, USDA International Science Education projects, and newly emerging opportunities through USAID programs in Burma. These efforts are in conjunction with the UK Office of International Affairs.
- In conjunction with the Kentucky Horticulture Council and funding through the Kentucky Agriculture Development Fund, the department continues to support the profitability and expansion of Kentucky horticulture production across the commonwealth. The department offers technical support through on-farm demonstrations, field days, educational tours, applied research, marketing and promotion. Parts of these efforts are in collaboration with the Department of Agricultural Economics.

Landscape Architecture

- The primary program responsibility of the Department of Landscape Architecture is for the Bachelor of Science degree in Landscape Architecture. All faculty in the department have teaching appointments with assignments in the BSLA program. The Department's degree program is the only Landscape Architecture degree in Kentucky and is accredited by the Landscape Architecture Accreditation Board (LAAB).
- Department faculty members also share responsibility for interdepartmental programs. Brian Lee is an affiliated faculty member in the CAFE's interdisciplinary undergraduate program in Natural Resources and Environmental Science which includes teaching and undergraduate advising. Two Landscape Architecture

courses are cross-listed with NRES and additional courses are available as electives in the program.
- Ned Crankshaw is affiliated with the graduate program in Historic Preservation in the College of Design. His responsibilities involve thesis project direction, committee service, and a Landscape Architecture course that is offered as an elective in the program.
- Jayoung Koo, through her Cooperative Extension appointment, is affiliated with the Community and Economic Development Initiative of Kentucky, an interdisciplinary center in the CAFE. Her responsibilities are for community design and planning assistance which includes coordination with faculty-led student projects in the Department of Landscape Architecture.

Merchandising, Apparel & Textiles (now Retailing & Tourism Management)

- Dr. Vanessa Jackson (primary collaborator) is working with a consortium of professors from Iowa, Ohio, and Michigan to re-submit a NIFA grant related to rural retail development.
- Dr. Elizabeth Easter is serving as research project leader for The Cloths Care Research Center (CCRC), a cooperative effort among Cotton Inc., GE Consumer & Industrial, Milliken & Company, VF Imageware and Proctor and Gamble.
- Dr. Easter serves as director and provides testpiece service for the National Association of Institutional Linen Management association (NAILM).
- Dr. Easter serves as a continuing education instructor for the American Laundry and Linen College at Eastern Kentucky University.
- Under the new Retail and Tourism Management (RTM) umbrella, the department is revising the internship programs for both the Hospitality Management and Tourism (HMT) program and the Merchandising, Apparel and Textiles (MAT) program that will align and provide more consistency between the two programs and allow for one faculty member to supervise students in both areas.
- The Kentucky Plaid Project is a unique experiential education project engaging students in the Department of Merchandising, Apparel, and Textiles in product development from creative inception to finished product. The project is led by Dr. Scarlett Wesley, Assistant Professor and Liz Toombs, Advisory Board Chairman.
- Education Abroad Programs (London, Italy, Paris, Ghana) Study Tour.
- A sponsored internship and study abroad program in China is being developed by Dr. Tracy Lu.
- On-line course development and enhancement (MAT 247, 470, 514, 570).
- A new undergraduate Service Management course funded through Teaching Incentive and Improvement Funds (TIIF) is being developed for students in both MAT and HMT under the RTM umbrella.
- The MAT graduate program is being restructured to include the Hospitality Administration program which is currently under the department of Dietetics and Human Nutrition.

Plant & Soil Sciences

- Environmental effects of nanoparticles
- Natural products genetics and biochemistry
- Application of Next Generation DNA sequencing to the study of mRNA processing in plants
- Climate change effects on grain crop production in Kentucky

- Wheat science research and extension initiative
- Corn and soybean science research and extension initiative
- Agronomic Maximization of Soybean Yield
- No-tillage agriculture
- Harvesting Water by Increasing Soil Depth – Mitigating Fragipans for Greater Water Storage
- Grain Crops Academy
- Biofuels agronomy (switchgrass, Miscanthus, sweet sorghum)
- Kentucky Equine Programs (collaborator – forage and pasture working group)
- Fescue/endophyte forage research (collaborator with FAPRU)
- Master Grazer (collaborator)
- Master Cattleman (collaborator)
- Innovative Tobacco Grower Program
- Good Agricultural Practices training in tobacco production
- Kentucky Tennessee Tobacco Improvement Initiative
- Kentucky Turf Short Course
- Critical Zone Observatory (CZO) – Karst environments as a critical zone: Contributions to soil development, influence on groundwater quality, and record of climatological change
- Kentucky Nonpoint Source Nutrient Reduction Science Assessment
- Ghana-Tuskegee-UK effort on nutrient management in sub-Saharan Africa
- Increasing Community Awareness and Use of Environmental Information through Education and Outreach

Plant Pathology

- Plant Disease Diagnosis Laboratories (PDDL). Two laboratories are operated under the Plant Pathology Extension program, one on the University of Kentucky campus in Lexington, and the other at the Kentucky Agricultural Research Station in Princeton. These laboratories provide rapid diagnosis of diseases in plant samples sent by County Agents and other clients. This serves as a basis for advising growers and others on measures to manage the disease situation, and also provides a means to collect data on disease incidence, progress and control in the State of Kentucky. These data, in turn, are provided to national databases.
- Advanced Genetic Technologies Center: The Department of Plant Pathology has been primarily responsible for this core facility since 2001. The facility provides DNA, genomic and transcriptomics sequencing services at cost.
- Plant Sciences Imaging Facility: The Department of Plant Pathology has been primarily responsible for this core facility since 2006. The facility operates a confocal microscope designed for fluorescent imaging of living materials, and is generally applied to plant systems. The unit is housed with the department.
- Agricultural Biotechnology (ABT) undergraduate degree program. One of the Plant Pathology faculty members (Michael M. Goodin) is the co-DUG for ABT. Several other faculty advise ABT students or mentor ABT students in their research projects.

Veterinary Science

- Development of a collaborative graduate program that will offer a dual PhD-degree from the University of Kentucky – Department of Veterinary Science and the University of Copenhagen – College of Veterinary Medicine. This program provides

us with a unique opportunity to bring qualified DVMs into our graduate program and promote research collaborations among faculty at the Gluck Center and the College of Veterinary Medicine in Copenhagen, DK. Documents have been approved by both institutions and should be signed this spring.

- A partnership was established with the European research consortium Hippolia Foundation in 2012. Hippolia is a research consortium with equine scientists and researchers at multiple institutions in France and Belgium. With overlapping expertise in infectious disease, musculoskeletal science, genetics/ genomics, parasitology, and epidemiology, the partnership will allow scientists from the Gluck Center and Hippolia to collaborate on individual as well as major research projects with the opportunity to attract funding for research from both US and EU. The partnership has been catalyzed by Pfizer Animal Health, and further strengthened our close relationship with this pharmaceutical company.
- The development of a health and well-being program for research horses within the Department of Veterinary Science. The program provides all research horses with "in-house" veterinary care and herd health in accordance with and beyond what is required by IACUC. In addition to improving health and well-being of our research horses, the program has also attracted qualified veterinarians to our graduate program. We currently have six graduate students/ post docs that are board certified in internal medicine, surgery, and theriogenology participating in the program. A recent implementation of an electronic medical record, inventory, and "billing" program will allow the department to more effectively communicate health issues with IACUC and DLAR to make sure that we are in compliance with UK regulations, monitoring animal inventory, and account for animal costs associated with research grants. This system has the potential to serve as a model for health programs within other departments and institutions.
- Implementation of a re-charge service center for the Department of Veterinary Science Research Farm. This will allow the department to effectively control animal inventory and costs of the farm operation. It will also allow us to request full recovery of costs associated with animal use on extramural grants.
- A clinical/ research fellowship program together with equine practices in central KY is in planning. Discussions have been initiated with Rood & Riddle Equine Hospital and Hagyard Equine Medical Institute, and will also include other practices in central KY. The program is directed towards veterinarians seeking to obtain equine specialty training and become board certified within the American Board of Veterinary Colleges. It is aimed at providing a unique educational opportunity for combined excellent equine clinical and research training in preparation for board certification and successful carriers in clinical practice and in academia.

3. What are the appropriate measures of excellence and/or progress for your Department?

The most common responses for the appropriate measures of instructional success were:

- Enrollment – undergraduate and graduate
- Student Credit Hours (SCH)
- Student retention
- Increased student diversity

- Graduation rates
- Job placement and career progression of graduates
- Teaching /course evaluations
- Faculty awards
- Program accreditation
- National rankings
- Experiential learning opportunities/study abroad

The most common responses for the appropriate measures of research success were:

- Ranking of PhD program
- Grants and contracts
- Research publications
- Awards and recognitions
- Patents awarded
- Faculty diversity

The most common responses for the appropriate measures of Extension success were:

- Number of Extension contacts and individual responses
- Dissemination of research results
- Impact of Extension programs
- Scholarly works
- Education meetings, workshops, field days
- Extension specialist evaluations
- Access of educational material online
- Grant support

(See Table 1, Appropriate Measures of Departmental Excellence and/or Progress, for comprehensive results.)

4. What are reasonable expectations for undergraduate and graduate enrollment change in your Department over the next five years? Or changes in Student Credit Hours?

<u>Reasonable expectations for undergraduate program enrollment over the next five years</u>:

Decrease:

Stable: Five undergraduate programs expect enrollment to remain stable during the next five years.

Minimal growth (1-5% increase): Three undergraduate programs project slight growth in enrollment within the next five years.

Moderate growth (6-20% increase): Six undergraduate programs expect moderate enrollment growth during the next five years.

Significant growth (greater than 20% increase): Eight undergraduate programs anticipate significant enrollment growth over the next five years.

Reasonable expectations for graduate enrollment over the next five years:
Decrease:
Stable: Seven graduate programs project no change in enrollment over the next five years.
Minimal growth (1-5% increase): One graduate program expects a slight increase in enrollment for the next five years.
Moderate growth (6-20% increase): Two graduate programs anticipate moderate enrollment growth within the next five years.
Significant growth (greater than 20% increase): Three graduate programs expect significant enrollment growth over the next five years.

Reasonable expectations for changes in Student Credit Hours (SCH) over the next five years:
Decrease: One department expects SCH to decrease over the next five years.
Stable: Three departments expect that SCH will remain unchanged over the next five years.
Minimal growth (1-5% increase): Four departments expect to see minimal SCH growth during the next five years.
Moderate growth (6-20% increase): Three departments predict moderate SCH growth within the next five years.
Significant growth (greater than 20% increase): Three departments expect significant increases in SCH over the next five years.

(See Table 2, Projections for Undergraduate Enrollment, Graduate Enrollment, and Student Contact Hours, for comprehensive results.)

5. What are the most critically needed resources (of any kind: human, financial, physical) that limit advancement of your Department in: a) research, b) instruction, and c) extension and public service?

   a) Research: Eight of fourteen department chairs cited a need for additional research faculty members, while noting that faculty lines within departmental budgets continue to shrink. Funding for graduate students was also seen as a critical need for eight departments, along with the need for increased staff support for research and grant-related activities, funding for research-related travel for faculty and graduate students, and formal research mentors. Eight departments cited a need for new research equipment, additional research lab and office space, or both. Other physical needs include improvements to research farm support infrastructure, GPS technology, and department-specific research facilities.

   b) Instruction: Nine of the thirteen departments with instructional responsibilities noted a need for increases in instructional faculty. Two departments cited a need for teaching assistants and several departments named additional support staff as critical needs. Financially, eight departments identified the critical need for additional instructional faculty. Other financial needs include funding for professional development and travel, scholarships, international educational experiences, new instructional facilities, interdepartmental projects, and additional support and technical support staff. Nine departments cited new or

renovated classrooms, labs, and distance learning classrooms as critical instructional needs. Two departments listed instructional equipment as significant needs, while other department chairs named copiers, communication/media labs, instructional support staff, green houses, and realignment of space. One department chair said that the greatest benefit to the department would be the consolidation of the entire department in one building.

c) Extension and public service:
Eight department chairs named additional Extension faculty as a critical human need. Other human needs include IT support for new technologies, tech support for distance Extension education, and associate or research technicians for faculty specialists. Three departments named funding for additional Extension faculty as a critical financial need. Other financial needs include funding for Extension equipment, sustainable funding for Extension programs, funding for Extension graduate students, funding for community service activities, and incentives to increase Extension and community service activities. Critical physical Extension needs include additional space, equipment, and an educational/Extension meeting facility at Spindletop Research Farm.

(See Table 3, Critically Needed Resources Limiting Advancement of COA, for comprehensive results.)

Table 1 Appropriate Measures of Departmental Excellence and/or Progress

Dept.	Instruction	Research	Extension
AEC	• Job placement of new graduates • Career progression of earlier graduates • Strong graduation rates & academic performance relative to comparable students • Course offerings, experiential education, & advising relevant to job market and development of students as productive individuals and citizens • Explicitly promoting student diversity • Fulfillment of our Land Grant responsibility to make higher education accessible to qualified, motivated students • Maintaining teaching resources appropriate to enrollment • Responsive to employers' expressed needs for workforce development • Maintaining student evaluations above the university and college average • Awards from professional organizations such as Gamma Sigma Delta, NACTA, and the Agricultural and Applied Economics Association • Improvement in national rankings of the MS and PhD programs	• PhD program's ranking	• Number and quality of comments about extension specialists in the biannual agent survey • Comments from agricultural producers collected at meetings, via phone, and email correspondence • Number and quality of requests from agents, lenders, producer groups, legislative committees, and other stakeholders for programs and presentations • Uptake of publications containing substantive analysis and informative content • Timeliness of response to fast-moving economic and policy events • Regular provision of current information to agents for use in newsletters and programs • Prominence of UK extension specialists in regional extension committees • Participation in Extension Track sessions at the Agricultural and Applied Economics Association meetings • Coverage by the mainstream, agricultural, and community media • Publication of applied analysis in refereed journals, presentation at disciplinary conferences, and awards bestowed by professional organizations

Dept.	Teaching	Research	Extension
AFS	• Enrollment in undergraduate degree programs – in Fall 2012 AFS taught and advised 537 students in three BS degree programs. • Student Credit Hours – has increased from 3566 to 4867 SCH in the last 5 years with a decrease in faculty FTE in the department. • Graduate Student numbers – averaged 46 graduate students per year since 2007 with an unusually high 59 students in Fall 2012. • Graduate degree completions – average 6.5 MS, 3.7 PhD degrees conferred per year • Faculty named University Research Professor and Provost's Distinguished Service Professor. • Great Teacher Award and Provost's Outstanding Teacher Award. • Undergraduate degree completions – average 42 Animal Science and Food Science degrees per year. ESMA degree completions reached 25 in 2011-2012 AY.	• Grants and Contracts – averaged $4,044,707 per year in the last 7 years; typically second in the college. • Refereed journal articles and book chapters – averaged 55 per year since 2007; second or third in the College. • Regional, national, and international awards – Since 2007, AFS faculty have received 5, regional, 9 national, and 1 international award (excluding Fellow Awards). • Fellow Awards – Since 2007, AFS faculty have received 9 Fellow Awards. • CAFE Awards – Since 2007, AFS faculty have received 21 College Awards, including 3 Master Teacher Awards, 3 T.P. Cooper Awards, 4 George E. Mitchell, Jr. Awards, a Whitaker Award and 2 Outstanding New Extension Faculty Awards. • Fulbright Scholars – 2.	• Extension contacts – average 73,000 contacts per year. • Impact of Extension programs – 3 programs have been listed as model programs for generating impact and practice adoption data from counties.

Dept.	Instruction	Research	Extension
BAE	• Delivery of formal courses and student contact hours • Support of student engagement, experiential education, organized student activities, professional development and advising • Student teaching evaluations • Professional development and teaching improvement activities • Peer evaluation of classroom teaching • Success and achievement of students and advisees • Advising, activities, and positive interaction with students	• Publication in highly selective, rigorously refereed or juried outlets • Written works by individuals and/or collaborative teams, including research articles, works of synthesis (reviews) • Development of the next generation of faculty as documented by the number of graduate students advised and the number of grants written and received with graduate students as co-PIs • Coherent body of work, focused on one or a small number of significant topics • Significant awards, invitations to make presentations externally, service on national panels or committees, editorial appointments, leadership in professional societies, etc.	• Information delivery, including educational meetings, workshops, field days, individual responses and contacts • University, college or department level service • Responsiveness, direction and relevance of extension programs • Science and research based programs • Creative, effective methods of extension education and communication • Faculty that are highly accessible, responsive and interactive with peers, students and constituents
CLD	• Number of undergraduate honors students in CLD programs • Number of graduate programs offered by "distance" • Student awards and recognitions	• Funded research programs • Peer reviewed scholarly products • Faculty awards and recognitions • Number of graduate students engaged in research	• Funded outreach programs • Civic engagement of students through more interactions with communities

Dept.	Instruction	Research	Extension
DHN	• DPD undergraduate program and certificate CP/DI programs meet accreditation requirements of the Accreditation Council for Education in Nutrition and Dietetics (ACEND). Reaccreditation self-study underway with site visit April 28-30, 2013. • Human Nutrition and DPD undergraduate program meet accreditation requirements of the American Association of Family and Consumer Sciences (AAFCS). Self-study underway with site visit April 28-30, 2013. • Department meets strategic academic goals which are driven by department's core values, vision, and mission statements. Major course work revision for graduate program underway to separate Hospitality from Dietetics Administrative degree.	• The department meets strategic research goals which are driven by department's core values, and vision and mission statements. Increased grant proposal submittal and journal article submission is a priority. • Hire and retain competent, productive faculty, and staff to improve the student**:** teacher ratio for better access to grant proposal and research time. The department needs at least two more Assistant Professor lines to meet current academic, research and community service expectations. • Following faculty governance/adherence to department policies and procedures encourages transparency and teamwork. Department Policies and Procedures are currently being revised.	• The department meets strategic community service goals which are driven by department's core values, and vision and mission statements.
ENT	• Support of student engagement, experiential education, organized student activities, professional development and advising	• Academic Analytics of Faculty Productivity • Graduate Student Fellowships (NSF, USDA, EPA) • Graduate student and faculty awards; includes Fellows in Professional Societies	• Extension Specialists Evaluations by County Agents

Dept.	Instruction	Research	Extension
FAM	• Student/faculty ratio: identified as a key indicator in our strategic plan as a measure of student-focus. • Diversity of students, identified as a key indicator in our strategic plan, includes a proportion of students that is equivalent to the proportion in the community relative to sex, racial and ethnic background, abilities, age, and other measures of inclusion.	• Ratio of research DOE to publications, and extramural funding which demonstrates scholarly productivity. • Research success is associated with the ability to recruit and retain excellent graduate students which is influenced by ability to provide financial support.	
FOR	• Degrees awarded • Enrollment • Attempted student credit hours • Appropriate combination of enrollment and all student credit/contact hours generated by each faculty/staff member • Experiential learning opportunities for students	• Primary grant dollar/faculty ratio • Fiscal year grants • Calendar year publications • Editorships • Review/expertise panels • Boards, leadership • Number of invited and peer-review presentations	• Extension reporting measures (taken from RREA reports) • Web site visits • Access of educational material online
HORT	• Development and implementation of electronic media for research-based educational programs	• Competitive grant dollars/research FTE • Collective faculty impact factor for publications • Awarded patents • Faculty h-index • Nationally and internationally recognized awards • National departmental recognition in the area of sustainable/organic horticultural production practices.	• Development and implementation of electronic media for research-based educational programs

Dept.	Instruction	Research	Extension
LA	• Coherence in undergraduate curriculum structure • Student preparation for contemporary professional landscape architectural practice • Provide the greatest value for students' investment of time and resources. • Formalized program of undergraduate travel, internships, and research experiences • Increase undergraduate enrollment. • Increase diversity of undergraduate enrollment. • Additional physical space for instruction.	• Diversity of faculty • Faculty effort to reflect balanced mix of the teaching, research, and extension missions, while retaining primary emphasis on professional undergraduate education. • Strengthen ties to the professional landscape architecture community. • Additional physical space for research.	• Design assistance center to coordinate student-faculty teams with requests for design assistance from communities. • Additional physical space for engagement efforts.
MAT	• Excellence in teaching. • National and international recognitions received by students. • Success of students determined by career placements and achievements of our alumni. • Comparison to benchmark institutions for each course offered. • Number of students who successfully graduate each year, from both the graduate and undergraduate programs. • 4-year and 5-year graduation rates for undergraduates; 2-year graduation rates for graduate students. • Quality of internship and post-graduation placements. • Jobs, salaries, and/or time-to-employment of students following graduation.	• Peer-reviewed journal articles • Teaching awards. • Quality and quantity of research publications. • Internal and external grants received. • National and international recognitions received by faculty through professional associations.	

Dept.	Instruction	Research	Extension
PSS	• Graduate students advised • Undergraduate student contact hours • Undergraduate students advised • Time to graduation • Student retention • Student successes after graduation – attend graduate or professional school or employed in a position related to the major	• Refereed journal publications • Obtaining extramural funding • Intellectual property o Cultivars released o Patents awarded o Return on intellectual property – licenses, royalties, start-up companies	• Reviewed extension publications (regardless of media or type) • Contacts • Extension impacts o Changes in practices o Validation of current practices
PPA	• Classroom instruction, including student and peer evaluations where available • Innovative instructional programs • Collaborative activities on multi-disciplinary, multi-departmental and multi-institutional teaching programs • Scholarly activity in the area of pedagogy	• Research publications • Mentorship of students (graduate, undergraduate and occasionally high school students) • Hosting professionals at various levels including postdoctoral scholars, sabbatical professors, high-school teachers, etc. • Invitations to present papers or otherwise participate in scientific meetings and workshops • Grant support in the context of professional recognition and sustainability of the program	• Scholarly works, especially creative, original, and high impact peer-reviewed works • Information delivery via any physical or electronic media that are relevant, appropriate, and accessible • Applied research • Dissemination of research results through Extension and disciplinary outlets • Documented impact on stakeholders, such as changed practices, profit, or quality of life. • Peer and stakeholder recognition i.e. awards, speaking invitations, service on national and regional grant review panels, appointments to boards or committees, editorial appointments, leadership positions in professional societies, and grant awards • Collaborative work for the advancement of the department's applied research and extension responsibilities • Grant support in the context of program advancement and/or sustainability • Development of professional regional, national, and international collaborations and networks

Dept.	Instruction	Research	Extension
VSC	• Maintain enrollment at an average of no less than 1 graduate student per faculty FTE • Average time to PhD maintained at 5 years • Increase the number of funded fellowships for the Veterinary Science Department • Produce and average of one abstract per year and authorship of 0.5 manuscripts per year per graduate student	• Maintain refereed publications at an average of no less than 3 per year per research faculty FTE. • Host one regional, national or international scientific meeting per year on a topic of equine health. • Faculty members from the Gluck Center present abstracts or lectures at regional, national or international scientific or professional meetings annually. • An average of one publication per faculty FTE in popular press per year. • Receipt of extramural funding from agencies with available funds targeted for equine research. • Receipt of federal research grants where applicable for horses. • At least one intellectual property disclosure per year from the Gluck Equine Research Center.	

Table 2 Projections for Undergraduate Enrollment, Graduate Enrollment, and Student Credit Hours

Dept.	Undergraduate Enrollment Expectations	Graduate Enrollment Expectations	Student Credit Hours (SCH) Expectations
AEC	Stable-to-slowly-growing enrollment, 10% growth over 5 years	Maintain enrollment at present level of 60 students	As much as 10% increase if plans to offer UK Core courses become reality, but the likelihood of this is unknown
AFS	BS Animal Science – Anticipate continued moderate growth; enrollment at 300 in 5 years; BS Food Science – Anticipate growth from current 38 to about 50 in 5 years; BS Equine Science & Management – Anticipate growth annually with enrollment approaching 280-300 in 5 years (currently at 218).	Numbers will remain between 45 and 50 students over the next 5 years (Fall 2012 graduate enrollment = 59 students, but that is an unsustainable anomaly)	An increase in SCH is anticipated as new courses are introduced during curriculum revision
BAE	Projected enrollment in BAE undergraduate program is expected to increase to 226 in five years (57% increase).	Projected enrollment in BAE graduate program is expected to increase to 44 in five years (8% increase).	Student Contact Hours will increase moderately based on increases in undergraduate and graduate enrollment.
CLD	Steady growth is predicted for CLD undergraduate majors if resources are available. Gradual, modest increase, then stable number of undergraduate CTE/Agricultural Education majors is expected.	If resources are available, a substantial increase in number of applicants to MS in CLD is anticipated after integrated program is approved and marketing begins.	With resources, significant increase in SCH production is predicted after joint Undergraduate Certificate in Leadership Studies with Educational Leadership Studies is approved and implemented. Some CLD courses could be modified and approved to meet UK Core requirements resulting in a significant increase in SCH production.

Dept.	Undergraduate Enrollment Expectations	Graduate Enrollment Expectations	Student Credit Hours (SCH) Expectations
DHN	A projected increase in enrollment is expected due to the popularity and need for quality healthcare professionals. Prior years have shown an increase of six to fifteen percent (6-15%). However, a new upper-division admission requirement is expected to reduce upper-division enrollment by 25%.	Moderate increases in graduate enrollment are expected.	Contact hours will remain constant.
ENT	The departmental faculty will explore options to increase undergraduate enrollment over the next 5 years, including new course offerings, increased offerings of current courses, on-line course offerings, increased involvement in Sustainable Ag major, and creation of a new major/minor in Protection of Humans/Animals/Plants.	By design, enrollment in graduate programs will remain unchanged.	Graduate student contact hours will remain at current levels. Undergrad student contact hours will increase by 5 % due to increased offerings of ENT 110 (Insect Biology) which is a UK Core course.
FAM	Current enrollment in undergraduate programs is appropriate.	Current enrollment in graduate programs is appropriate.	Current student contact hours are appropriate.
FOR	Appropriate long-term enrollment range for the Forestry Department is 40-80 undergraduate students. The new Wildlife Certification track (Wildlife Forester option) is expected to enroll 10 students within the next 5 years.	Graduate program enrollment is expected to remain between 15 and 25 students during the next 5 years, with current enrollment at 17.	Student credit hour production has increased over the past 2 years and is expected to continue to increase, ranging between 1500 and 3000 during the next 5 years.

Dept.	Undergraduate Enrollment Expectations	Graduate Enrollment Expectations	Student Credit Hours (SCH) Expectations
HORT	SAG - Substantial increase over next 5 years, double enrollment to 30-35.ABT - Little change likely over next 5 yearsHPLS - Cautiously optimistic about 20-30% increase over next 5 years	IPSS graduate student enrollment (measured by Horticulture major advisors) will likely continue to increase with additional faculty resources. With more faculty, reasonable expectation is an increase of 50% in graduate student enrollment over the next 5 years.	SAG - Likely to increase substantiallyABT - Little change likely over 5 yearsHPLS - Some areas (floral design) will have substantial increases
LA	The department's goal is to reach enrollment of 100 students, a 36% increase over the next 5 years.	NA	Future increases in SCH are likely with addition of LA course in UK Core.
MAT	MAT undergraduate programs are projected to grow by about 5% during the next 2-3 years.	Graduate program enrollment is steadily increasing and is projected to double in the next 2 years from 3 students to 6.	Student contact hours need to be reduced over the next 5 years allowing faculty more time for research. A reduction of contact hours from 128 to 120 is under review by the College of Ag's undergraduate review committee.
PSS	ABT - Undergraduate enrollment should remain constant. NRES - Undergraduate enrollment could increase to 120 students. HPLS - Undergraduate enrollment needs to increase by 50-100% for this program to remain viable.	IPSS – Graduate student enrollment is expected to remain constant, but enrollment could increase with more research and teaching assistantships with higher stipends. Tight extramural grant environment will limit that possibility.	Three additional UK Core courses could add 1500 student contact hours per year.

Dept.	Undergraduate Enrollment Expectations	Graduate Enrollment Expectations	Student Credit Hours (SCH) Expectations
PPA	ABT - Undergraduate enrollment should remain constant.	Current graduate enrollment rates will be maintained.	PPA contact hours are expected to remain constant.
VSC	GN 300 - Course offered every other year with anticipated enrollment of 25 students.GEN 302 - Maximum student enrollment (18) is not expected to change significantly.ABT 301 - Currently 130-140 students. No significant change in enrollment is expected.	The goal is to maintain enrollment of approximately 30-35 graduate students, with 2/3 being enrolled in a PhD program and 1/3 in an MS program.	Contact hours are expected to remain constant or increase slightly.

Table 3 Critically Needed Resources Limiting Advancement of CAFE

	Research			**Instruction**			**Ext. & Pub Service**		
	Human	**Financial**	**Physical**	**Human**	**Financial**	**Physical**	**Human**	**Financial**	**Physical**
AEC		Low external funding for grad students	More offices	Critical need for instructors	Funding lost for 3 faculty lines	Classrooms, labs needed	Low FTE	Extension-related grants rarely fund graduate students	
AFS	Funding for research farm personnel	Funding for the animal research facilities, feed bills	Replacement/ upgrade of research equipment, lab and grad student office space	Must fill faculty vacancies, hire more TA's, hire food processing expert to maintain accreditation, more faculty for distance learning courses	Funding for faculty vacancies	Classrooms needed, renovations needed in existing classrooms, reduction in assessment oversight by university	Loss of Extension associates funded extramurally, IT support for new technologies especially in distance education	Funding for travel	
BAE		Bridge money to carry soft-money people from one grant to the next		TA's to assist w/increasing teaching/ grading loads		Classroom space	Extension personnel in bio-environmental area	Additional Extension funding	
CLD	Increased research DOE among faculty			Teaching faculty, Academic Coordinator, undergraduate student staff, increased staff support, staff for distance learning classroom	Funding for professional activities/ development	More classrooms, classroom equipped for distance education, update communication/ media lab, copier on each floor	Extension DOE faculty	Funding for Extension faculty	

	Research			Instruction			Ext. & Pub Service		
	Human	**Financial**	**Physical**	**Human**	**Financial**	**Physical**	**Human**	**Financial**	**Physical**
DHN		Funding for research assistants, undergraduate and graduate research, research presentation travel for students and faculty	Research space	2 additional assistant professors	Funding for additional assistant professors, graduate assistants, professional development and travel, international travel and educational abroad opportunities	Office space, student laboratories, and distance learning classrooms		Funding for community service activities	
ENT	Highly trained office staff	Funding for graduate assistantships and graduate tuition	Renovate all laboratory spaces, house department in one building	New under graduate education faculty member, highly trained office staff		House department in one building	Highly trained office staff		House department in one building
FAM		Funding for operating expenses, stable funding for graduate student assistantships		Full professor	Funding for operating expenses, funding to recruit and hire full professor			Funding for operating expenses	
FOR	Increased research FTE	Research faculty to replace lines lost in budget cuts, funding for research support staff		Increased instructional FTE	New facilities to increase effectiveness	Funding for additional faculty, graduate student stipends & tuition, instructional support staff, technicians & associates	Increased Extension FTE	2 extension associates to replace lines lost in budget cuts	

	Research			Instruction			Ext. & Pub Service		
	Human	**Financial**	**Physical**	**Human**	**Financial**	**Physical**	**Human**	**Financial**	**Physical**
HORT	2 faculty lines in research	Re-instatement of faculty salaries lost through budget cuts	Additional research space	Addition of lecturer position, technical staff	Additional salaries for technical, management personnel at Horticulture Research Farm	Additional greenhouse/ laboratory/classroom space		Sustainable funding for Extension programs in fruit and vegetable production, nursery landscape, floriculture greenhouses, and viticulture/ enology	
LA	Research faculty	Funding for research faculty	Research space			Differentiated space in Good Barn			Additional space
MAT	Formal research mentors	Funding for travel to present research, travel for consortium work, grad student assistantships		National search for department chair, creation of academic service advisor/ coordinator	Funding for joint MAT/HMT projects, improvements to student project display area	Lecture rooms with greater seating capacity, conference/ resource room, improvements in instructional technologies	Tourism Extension specialist	Incentives to increase Extension & public service activities	

	Research			Instruction			Ext. & Pub Service		
	Human	**Financial**	**Physical**	**Human**	**Financial**	**Physical**	**Human**	**Financial**	**Physical**
PSS	Applied research & water management scientists; 50% statistical consultant; admin support assistant for grant development, management, reporting, consortium coordinating	Increase competitive grant funding, increase grad student stipends, fund research conferences for grad students, fund seminar speakers, fund visiting scientists	Improve research farm support infrastructure at Spindletop and Princeton, adopt field plot GPS technology, field scale equipment supporting climate change research	Undergrad student recruiter, 50% lecturer for statistical reasoning course, technical support for distance education	Award dedicated scholarships	House department in one building, modernize and equip soil science teaching lab and agricultural biotechnology teaching lab, on-farm classroom facility	Increase Extension faculty, research scientist, partial Extension associate or research technicians for faculty specialists, tech support for distance Extension education, IT support staff		Educational/ Extension meeting facility at Spindletop Research Farm
PPA		University & state support for equipment purchases, funding for grad student support	New support equipment; plant growth chambers, environment rooms, cold rooms and greenhouse facilities; biological containment units	Additional faculty in plant bacteriology & plant nematology	University & state support for equipment purchases	New support equipment	Additional faculty in plant bacteriology & plant nematology	University & state support for equipment purchases	New support equipment

	Research			Instruction			Ext. & Pub Service		
	Human	**Financial**	**Physical**	**Human**	**Financial**	**Physical**	**Human**	**Financial**	**Physical**
VSC	Recruit equine epidemiologist and musculo-skeletal science faculty	Funding support for programs & grad students, funding support for research	New research equipment, renovate & improve Gluck Equine Research Center, renovate & repair animal research facilities, new biosecurity level 3 facility						