

2013 CANR Master Plan Process
Department of Applied Economics and Statistics
University of Delaware
Draft #3 – October 21, 2013

1. Introduction and overview

The Department of Applied Economics and Statistics (APEC) recently completed a comprehensive Academic Program Review (APR) in February 2013, which involved an internal self assessment of our programs and external input from various stakeholders and a panel of academic experts from outside institutions. The overall conclusions from the APR are that APEC faculty and staff have worked very hard in recent years to make significant improvements to our programs and processes. These changes have resulted in phenomenal growth in high quality output in our teaching, scholarship and outreach activities. For example, we have experienced significant increase in our number of majors and enrollment in our courses and have seen a dramatic growth in research output and growth in contracts and grants. According to our 2013 APR panel report: “The Committee’s overall assessment is that (Applied Economics and Statistics) has a strong M.S. program in both the AREC and STAT areas ... Relative to peer departments, job placement prospects for both AREC and STAT students are excellent and with competitive starting salaries.”

Using our recent APR process and findings as a starting point, we are approaching the “CANR Master Plan Process” as an opportunity to further develop a clearer and more specific vision of what we want to become as a department in the next two decades and why we believe these are reasonable goals to pursue.

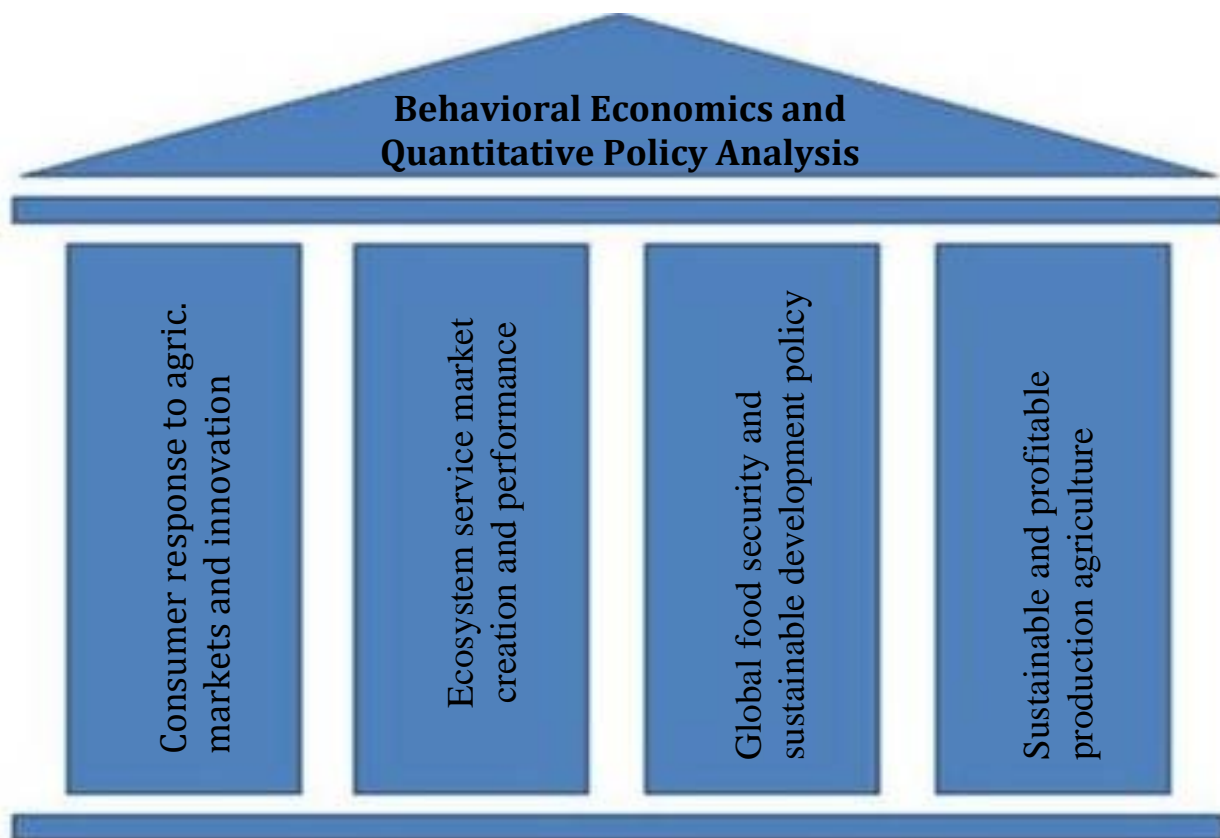
2. APEC’s unique strengths

APEC is uniquely positioned to become an academic leader in the blending of scholarship and teaching in the two disciplines of applied economics and statistics because of the composition of our department’s faculty and academic programs. Each of the areas of excellence we have chosen to pursue will include a holistic integration of research, teaching and outreach/extension. The identified areas of strengths stated below will guide future activities of the department. We identified two unique strengths with each one supported by four pillars. Each pillar represents a unique application or expression in support of the area of excellence.

A) An applied economics program with strong emphasis on behavioral economics and quantitative policy analysis using state-of-the art tools (e.g., experimental economics and applied econometrics).

We will emphasize stronger integration within the department with the applied statistics program. This area of excellence will have four pillars that integrate current and future faculty and staff expertise. The four pillars are:

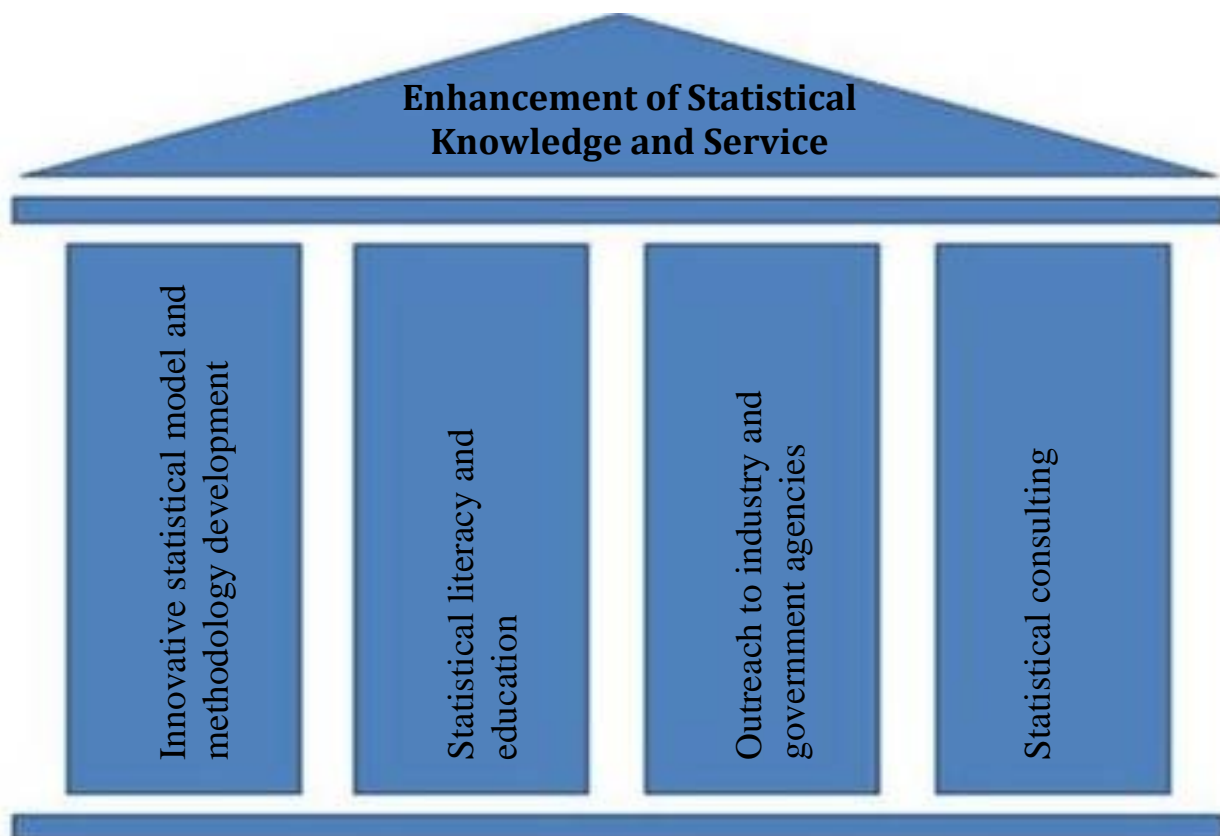
- Consumer response to agricultural markets and innovation
 - Focuses on analyzing the economics of consumer behavior in local and global food markets and related public policy issues in a global food system
- Ecosystem service market creation and performance
 - Emphasizes the efficient and sustainable provision of ecosystem services from nature and working lands
- Global food security and sustainable development policy
- Sustaining profitable production agriculture in the face of suburbanization pressure



B) An applied statistics program that is a national leader in providing statistical knowledge and service to address real world problems locally and nationally.

We will emphasize stronger integration within the department with the applied economics program. This area of excellence will have four pillars that integrate current and future faculty and staff expertise. The four pillars are:

- Innovative statistical model development
- Statistical literacy and education on campus and the region
 - Training in statistical theory and analytical methodology with applications to economics and the sciences (biological, social sciences, etc.)
 - Training the next generation of statisticians at the undergraduate and graduate levels, as well as teaching non-majors to use statistics as a tool in their fields
- Connection and outreach to private industry and government agencies
 - Outreach via internships, seminars, and workshops
- Statistical consulting expertise and service (via the StatLab)
 - Potential areas of strength: biostatistics, bioinformatics, econometrics, geostatistics, and big data analysis, experimental design, financial analytics, etc.



3. Goals and Vision for the Future of APEC

The mission and goals of our department are to provide quality education to undergraduate and graduate students, foster the free exchange of ideas, and engage in scholarly and outreach activities that generate new knowledge capital that could yield accurate information for making important decisions in the public and private sectors of our society. APEC has a strong record and tradition of productive programs and personnel who are engaged in innovative teaching, cutting-edge social science research, and public service in a wide variety of professional areas.

Long-term goals (25 years out):

- Double the current number (four) of research active faculty to support growth in scholarship
 - Applied economics: increase by adding 4 new hires
 - Statistics: increase by adding 4 new hires
 - Rationale: support growth in scholarly activities, grantsmanship, teaching and mentoring graduate students in MS and future PhD programs
- Transform each of the three retirements in extension positions to tenure track faculty (joint focus on applied research and extension).
- Obtain three endowed chair positions to support very productive faculty, to attract new faculty, and to enhance our department's reputation.
- Develop nationally respected PhD programs. Based on 2013 APR recommendation, the initial PhD program will be in "Applied Economics" and then in "Statistics".
- Build significantly larger capacity for generating extramural funding to support large multidisciplinary and policy-relevant research.
- Offer more variety in courses available and modes of instruction (at the undergrad and graduate levels).
- Develop a statistics program with a national reputation comparable to some of the top statistics department in the U.S. that have embraced a more multidisciplinary focus in their research and teaching.
- We could adopt a smaller scale model of the successful statistics programs at North Carolina State University (NCSU) and Iowa State University (ISU). For example, Iowa State Univ. describe their statistics programs as follows:
 - *"The department has areas of strength in biological statistics and bioinformatics, engineering statistics, survey statistics, computational statistics, statistical graphics, Bayesian statistics, theoretical statistics, statistics education, and spatial and environmental statistics..."*
 - Our goal is to develop a more collaborative partnership in statistical modeling and applications with other units at UD. Although APEC does not currently have the number of faculty and staff to duplicate what NCSU and ISU does, we could still develop a more focused mini-version of some of the programs they currently have that are relevant to our own needs and aspirations.

4. What We Will Leave Behind to Achieve the Above Goals

In the recent years, we deliberated on this issue in response to previous APR recommendations and have made strategic decisions about what to leave behind as follows:

- We discontinued the Operations Research graduate program in 2012.
- AGED program and corresponding resources have been moved out of our department.
- One faculty position (Pat Barber) was left unfilled since 2011 retirement.
- Review curriculum to eliminate redundant courses.
- Discontinue small enrollment courses that are not deemed necessary for our undergraduate and graduate majors.

5. Stakeholder Input

Stakeholder inputs were obtained from three sources: APEC Alumni, current students, and national experts in our profession (2013 APR panel of five academics). We conducted a comprehensive survey of our alumni (undergraduate and graduate) who are now professionals in various fields (business, government agencies, academia, etc.) and asked for their feedback regarding the quality of our programs and suggestions for improvements. Below is a summary of their responses.

Undergraduate Students:

A total of 351 undergraduate alumni from 1995 to 2010 served as the population for this study. We had a 31.1 percent overall response rate. Here are several key points from the survey:

- Two-fifths (40%) of our students decided upon an APEC major before entering the university.
- Most of our undergraduates (58%) found their “first job” in the private sector.
- More than one half (52%) of our graduates started at salaries between \$30,001 and \$40,000. The average current salary now is \$63,350, which is consistent with the national average for similar disciplinary graduates. In a 2011 report by researchers at Georgetown University’s Center on Education and the Workforce, using the U.S. Census Bureau’s American Community Survey, the median income at the 25% (75%) percentile for agricultural economics (and agribusiness) graduates are \$39,000 (\$92,000). The full report can be downloaded at the Georgetown site: <http://cew.georgetown.edu/whatsitworth/>.
- The students indicated that we do a very good job (Excellent ratings over 50%) in availability of the advisor, willingness of the advisor to help, opportunities for interaction with faculty, and the attitude of the faculty toward students. In addition, the department rated well (combined Good and Excellent) in fairness of grading, quality of instruction, availability of courses, clarity of degree requirements, and quality of initial contacts with the department.

Furthermore, our 2013 APR external reviewers had interviews with current APEC students and received valuable feedback. In their report, they stated the following:

“Undergraduate students and alumni expressed a high level of satisfaction with the level of personal attention and advising the department offers, the breadth of course plans and options that are offered, career opportunities, and preparation for graduate school. Students in each major found programs tailored to their interests and opportunities to build skills inside and outside their courses. The FABM, ERE, and NRM majors also expressed a strong identification with being part of the College.”

Graduate Students:

In a recent Alumni Survey of graduate students over the past 15 years, former graduate students identified financial support (73.9%), contacts with the department (63.8%), personal recommendations (60.9%), and course offerings (53.6%) as strong factors in choosing the department as a place to undertake graduate study. Students gave high excellent ratings for their advisor’s help (72.1%), opportunities for interaction with faculty (65.7%), advisor availability (64.7%), professional competence of faculty (61.8%), and attitude of faculty (61.8%). Lower marks were given to graduate room/office facilities, and post-graduation career advising, although ratings of “excellent” and “good” combined for these areas were still well over 67 percent. The mean starting salary over a 15-year period was nearly \$55,000, and the current salary of graduate alumni was nearly \$84,000.

Career/Job Placement: The graduates were asked about their first job placement. Virtually all of our students find their first job within a few months of graduating. The data and statistical tools taught in all of our degrees have become very valuable in the job market. For those who went on to Ph.D. programs, most received funding in forms of fellowships, research and teaching assistants. The two companies that employed the most of our graduates were JPMorgan Chase and Bank Of America. Other companies reflect a diverse set of firms including Dupont, Barclay’s, Exelon Power Team, Cardinal Health, Education Testing Service, and Lucent Technologies, to name a few. In recent years, educational institutions that have admitted and funded our past MS degree graduates for PhD degrees include: Cornell University, University of North Carolina – Chapel Hill, Texas A&M, North Carolina State University, UPenn, UC-Davis, and the University of Florida.

6. Curricular Revision

In the past five years, we have made a variety of revisions to each of our majors. However, in response to recent *Stamats* report and the recommendations in our 2013 APR panel report, we plan to revisit each of our majors and revise the course requirements, where necessary. For example, in our 2013 APR report the review team observes, *“The two applied economics undergraduate majors do not currently have a common core of courses that train all students as applied economists. This would be accomplished, and the program strengthened, by having the Food and Agribusiness Marketing and Management (FABM) and Environmental and Resource Economics (ERE) take the same common core of calculus, introductory and intermediate microeconomics, and statistics/quantitative courses.”* These are two very important majors in our department that deserve closer review for possible improvements.

7. Staffing Plan

Currently unfilled and imminent retirements – (Rank and Date of retirement is in parenthesis):

1. Teaching/Research Faculty (Assoc. Prof.) - Applied Econ/AgED (December 2011)
2. Teaching/Research Faculty (Assoc. Prof.) - Applied Econ/OR (December 2012)
3. Extension/Research Faculty - Applied Econ/Extension Specialist (Jan. 2013)
4. Extension/Research Faculty (Full Prof.) - Applied Econ/Extension (Jan. 2014)
5. Teaching/Research Faculty (Full Prof.) - Statistics (May 2013)
6. Teaching/Research Faculty (Full Prof.) - Statistics (December 2013)
7. Teaching/Research Faculty (Assistant Prof.) - Statistics (May 2014)
8. Teaching/Research Faculty (Assoc. Prof.) - Statistics (May 2015)

Based on recommendations of the 2013 APR panel report, we request the following positions:

- *Applied Economics*: In addition to current staffing, our department needs to hire:
 - **2-4** new tenure track faculty to support the establishment of a Ph.D. program.
 - **2** tenure track faculty (research and extension). This will be done in consultation with the Director of cooperative extension.
- *Statistics*: **Immediate** hire of **3-5** tenure track positions to replace pending retirements with at least one at the associate professor or higher.

Administrative Staffing: While APEC has grown in size and responsibilities over the past two decades, resources for administrative staff support remained constant. Our entire department has only two administrative staff support (Assistant to the Chair and Staff Assistant for Graduate Programs), but CANR only provides full salary for one of the positions and 75% for the other. We request that:

- CANR should cover the full salary for both administrative support staff members
- Based on the 2013 APR panel recommendation, CANR should approve the hiring of one additional support staff to assist with the management of grants and accounting (responsibilities would include assistance with grants submission and post-grant administration on the financial and compliance sides).

8. Space Utilization Plan and Facility Needs

- Faculty/Staff offices
 - We have just enough space for offices, but have no room for additional growth
- Center for Applied and Experimental Economics
 - Need for larger and more functional space (Update: renovation is underway)
- Graduate Student offices
 - We have a large number of graduate students, but have very limited space for the students. Currently, only funded students (about 65% of total) have office space.
- Post-doc and visiting professor offices

- We need dedicated office spaces for post-docs and visiting faculty.
- Townsend Hall (TNS) class room teaching spaces
 - TNS has limited classroom space for computer lab instruction (e.g., GIS courses)

9. Needs from Support Services Units (IT, Communications, etc.)

- Need better designed and easier to navigate websites to attract prospective students (and potential faculty/staff) to our department.
- Need more timely and effective technical assistance for web development and maintenance, computers, software, and support for research.
- There is an urgent need for a major overhaul and redesign of our departmental webpages across the college.
- The centralized administration of technical and web development support has been inadequate and quite limited in meeting our departmental needs. For example, we have been asking for help in revising the structure and content of our department websites for almost two years and have yet to get the type of assistance we need.
- The allocation of more resources to web design/maintenance and general IT may be needed to complement the role filled by one single web designer in CANR.
- Faculty and staff members of APEC would like to have more access to making basic updates to the content of our departmental website.

10. Areas or initiatives in which we should seek to obtain development funds

- New faculty hires
- Endowed chair positions
- Center for Experimental and Applied Economics
- Undergraduate and graduate research scholarships
- Funded undergraduate summer internship programs
- Scholarships for undergrads involves in experiential learning (e.g., NAMA club, conference travels, etc.)

11. Foundational Steps (to begin July 1, 2013)

- Curricular Revision and consolidation of some undergrad majors:
 - Subcommittee to review.
- PhD program in Applied Economics: Subcommittee to explore feasibility.
- Relocation of the Center for Experimental and Applied Economics and the renovation of the previous ag. library space.
- Faculty Searches: Obtain CANR Dean's approval to set up search committees.