

College of Agriculture and Life Sciences

Strategic Plan Update – 2005

1. Vision and Mission Statements

Vision

The College will use quality science-based education, extension, international, and research programs to build the capacities of multiple stakeholders; develop global economic advantage for the citizens; provide exceptional leadership in the management of agricultural and natural ecosystems; and strengthen families and communities.

Mission

The mission of the College is to provide a multi-disciplinary approach to learning, discovery, and citizen engagement in the fields of science and the business of living systems that makes a positive difference on society.

The College will:

- Enhance agricultural productivity and environmental sustainability.
- Assist producers to gain market share through value-added endeavors, bio-based products, bio-processing, crop diversification, and new production.
- Develop high value horticulture and specialty crop products and systems.
- Bring new knowledge to human health and nutrition in the quest to prevent chronic diseases.
- Study infectious and vector-borne diseases and develop methods to reduce their effects on plants, animals, and humans.
- Strengthen communities and their economic viability by creating innovative tools citizens and local government can use to respond to change.

Areas of Emphasis

- Develop new “cluster” programs in: infectious diseases; food, nutrition, and health; bio-design and bio-processing; community viability; agricultural profitability and environmental sustainability; and specialty crop agriculture.
- Enhance research and education in biochemistry, genetics and genomics, bioengineering, molecular biology, biomaterials, biotechnology, nanoscience, biomedical engineering, and proteomics through active participation in the Institute for Biomedical and Public Health Sciences (IBPHS), Institute for Critical Technology and Applied Sciences (ICTAS,) Macromolecules and Interfaces Institute at Virginia Tech (MILES-IGERT,) Macromolecules and Interfaces Institute (MII), and Metropolitan Watersheds Institute.
- Enhance programs in human health and nutrition, infectious diseases, and obesity prevention and management through active participation in IBPHS.
- Establish cross-cutting research centers for Bio-design and Bio-processing, Vector-borne Diseases, and Food, Nutrition and Health.
- Realign College Communications, Marketing, and Public Relations functions under a new Director who will develop and implement a comprehensive marketing and public relations program.

Anticipated Accomplishments and Outcomes

Increased National Stature

- Move into the top 10 NSF ranked research programs by 2008 and among the top five by increasing grants and contracts expenditures from \$36 million to \$60 million per year by 2011.
- The value of the College endowment will be increased from \$46.7 million to \$86.7 million by 2009.

- The overall quality of programs (education, extension, international, and research) will improve through established Standards of Quality and a comprehensive evaluation system.
- Faculty recognition within the University and among national peers will increase through the development and implementation of a College-wide recognition plan.
- PhD enrollment in the College will increase by 120 by 2009 and 140 by 2011 and Masters enrollment will increase by 100 by 2009 and by 150 by 2011.
- The quality of departmental programs will improve in response to recommendations of federal (Cooperative State Research, Education, and Extension Service [CSREES]) and ad hoc reviews.

Actions to Achieve a High-Quality Diverse Community

Increase Diversity Based Planning

- During 2005-2006, a College Diversity Council will be formed to identify ways to assist our faculty, staff and students increase their appreciation and understanding of the varied cultures reflected in our College and will include a diverse group of students, faculty and staff.
- A recruitment plan will be developed to broaden the College's list of contacts, increase visits to other universities, and seek candidates for vacancies that exist or will open in the future.
- The College will work with the Office for Equal Opportunity during the fall of 2005 to review availability data for faculty recruitment and develop more appropriate data sources for use in affirmative action planning.

Increase Faculty and Staff Competence in Diversity Issues

- The College will participate in on-line training on diversity and harassment issues in partnership with the Office for Equal Opportunity.
- Unit leader training on effective recruitment, staff and human resources management practices, with inclusion of diversity issues, will be developed and implemented by 2006.
- Beginning in 2005, the College administration will include an assessment of "citizenship" in faculty evaluations. This will facilitate an assessment of, and feedback, on a faculty member's commitment to the principles of diversity.

Increase Diversity Composition of Faculty and Staff

- The College Human Resources Office will develop an annual "College Human Resources Fact Book" to include race and gender demographics and evaluation of progress towards reaching diversity goals.
- A staff member has been hired in the Human Resources group with specific assignments in the area of recruitment.

2. Undergraduate Academic Plans

Increase the Relevance of Undergraduate Course Work

- Increase partnerships among departments and employers, graduate and professional schools, and professional organizations to assure that programs and curriculum evolve to meet needs.
- Implement the major in Agricultural Sciences by spring 2006. Move the minor in Agricultural and Extension Education to the College in order to prepare

- teachers and Extension agents to deliver high-impact, science-based curricula.
- Offer two rather than four options in the Agricultural Technology (AT) program by fall 2007.
 - Establish a major in Applied Microbiology by fall 2007.
 - Strengthen curricula within 10 existing undergraduate majors to align with changing societal needs.
 - Increase research and internship experiences in cutting-edge technologies employed in biotechnology, bioinformatics, biomedical, extension, and agricultural systems and management.
 - Expand international student exchanges and curriculum-based study abroad programs through grants and development.
 - Increase the quality of undergraduate programs by developing interdisciplinary capstone experiences.
 - Increase the ratings of the educational programs in CSREES reviews and in professional organizational rankings.

Increase Undergraduate Enrollment

- Increase graduation in the Agricultural Technology (AT) associate's degree program to 60 students by 2007 by recruiting and retaining better trained students.
- Promote the articulation agreement with the Virginia Community College System (VCCS) and recruit undecided students.
- Increase undergraduate enrollment from 1,900 to 2,500 students by 2011.
- Increase the number and value of scholarships through development activities.
- Incorporate evaluation of faculty advising into annual evaluations.
- Develop a program to recognize and celebrate excellence in undergraduate advising.

Renovate and Enhance Classrooms

- Working with the University administration, the College will develop a plan to renovate antiquated classrooms, which are located in buildings between 50 and 100 years old, to twenty-first century academic and research standards.

3. Graduate Academic Plans

Develop New Programs Aligned with Student Needs

- Initiate the online Masters degree in "Agricultural and Life Sciences" by fall 2006.
- Student enrollment in the Agricultural and Life Sciences Masters program will grow by 20 students per year with a steady-state enrollment of 100 students by 2011.

Increase Recruitment and Retention of Graduate Students

- Implement a hiring strategy that provides new faculty with two academic years of guaranteed support for a PhD student.
- Develop and implement recruitment and marketing strategies that target high quality graduate students.
- Partner with the Graduate School to develop long term stable funding models.

- Work with the graduate students and departments to develop a plan to improve office conditions.

Improve Quality of Graduate Student Programs

- Support multi-disciplinary graduate training programs (MILES, MII, IBPHS).
- Implement standards on major advisor responsibilities and on rights of graduate students to ensure that enrollment will continue to grow in the College.
- Enact time limits for financial support of graduate students prior to Fall 2005.
- Develop and implement an annual review of graduate performance.
- Implement regular external review of graduate programs as part of our comprehensive federal CSREES program reviews.
- Graduate programs in Dairy Science and Animal and Poultry Sciences will be reviewed in Fall 2005; Plant Pathology, Physiology and Weed Science and Entomology in Fall 2006, and one to three departments per year through 2011.

Develop Linkages with the Graduate School's Transformative Graduate Education Initiative

- The College embraces this project and is working towards developing a wide range of pedagogical skills in our graduate students to enable them to be more competitive after graduation.

4. Research and Extension Scholarship (See Appendix IV, 229 Planning and Budget)

Signature Areas

- Using multiple public and private partnerships and funding alliances at the local, regional, state, national, and international levels, focus faculty recruitment, scholarship, and fiscal resources on six signature or cluster areas to guide research and extension scholarship (SEE SECTION 1).

Areas for New Investment

- Develop new approaches to infectious diseases, host/pathogen/environment interactions, vector borne human and animal diseases, and plant diseases.
- Develop innovative approaches to overweight/obesity prevention and treatment and chronic disease associated with obesity.
- Develop high value plants and value added products that expand the use of bio-design and bio-processing that contribute to fuels, plastics and pharmaceuticals.

Strategies for Expanding Participation in Research and Extension Scholarship and Productivity

- Secure at least one graduate training grant by 2009.
- Continue to expand scholarship and productivity in our six cluster programs by increasing the number of faculty and students (undergraduate and graduate), reallocating resources, and increasing intramural grants and contracts.

Cooperative Extension and Agricultural Research and Scholarship

- Increase Cooperative Extension programming in Food Nutrition and Health and Community Viability by 50%.

- Develop high value horticultural and specialty crop products, businesses, and systems related to turf, ornamentals, wine, and small fruits.
- Increase extramural and local funding.
- Increase the number and impact of our scholarly output by publishing twice as many articles in high impact journals.
- Increase impact and customer satisfaction based on relevancy, timeliness, and integrity of extension programming.
- Increase number of research and extension programs/projects based on community needs related to the six cluster areas (SEE SECTION 1).

University Centers and Institutes

- Enhance research and education in biochemistry, genetics and genomics, bioengineering, molecular biology, biomaterials, biotechnology, nanoscience, biomedical engineering, and proteomics through active collaboration with IBPHS, ICTAS, MILES-IGERT, and MII.
- Increase programs in human health and nutrition, infectious diseases, and obesity prevention and management through active collaboration with IBPHS.
- Lead in the establishment of cross-cutting research Centers for Bio-design and Bio-processing and Food, Nutrition and Health, and partner to establish a Center in Vector-borne and Infectious Diseases by 2011.

Research Space

- Lease CRC research and office space (20,000 square feet, short-term) beginning in 2006.
- Obtain state funding for three (93,000 square foot each) research and graduate and undergraduate training buildings, first request FY2006.
- Obtain state funding to renovate the Ag Quad space into offices and classrooms. [Current research space ranges in age from 35 to 100 years old.]

5. Outreach and International Programs

Participation in International Strategic Programs

- Develop programs to enrich our international competence and enhance the quality of life throughout the world.
- Invest strategically in new interdisciplinary programs and initiatives having international dimensions, in particular with China and Chile.
- Strengthen collaborative research and scholarship across disciplines and community-based programs.
- Recognize and reward international activities.
- Establish a greater presence abroad through visiting scholars, student exchange, and undergraduate abroad.
- Expand funding to provide direct support to faculty and/or students participating in international activities.

Participation in Extension and Outreach Scholarship and Productivity

(SEE SECTION 4)

Quality Improvements and Program Review

- Work with faculty to design metrics for the measurement of the quality of international and outreach scholarship.

Strategies for Impacting Regional and State Economic Development

- Promote Virginia nationally and internationally through collaborative programs.
- Submit a proposal requested by the Tobacco Commission for the establishment of an Agriculture Innovation Center in Southside.
- Open the Agriculture Innovation Center in the Shenandoah Valley.
- Co-sponsor the Council for Rural Virginia's annual conference.
- Employ six new Community Viability Specialists to tailor community development educational programs to each district's needs.
- Educate landowners and farm managers about land protection options while retaining their productive capacity and economic viability.
- Protect Virginia's livestock industry with animal identification and data based tracking programs.
- Deliver educational programs that foster innovative and profitable agricultural enterprises to increase opportunities for regional food production and marketing, development of niche sales, agri-tourism, and/or organic production.
- Conduct integrated pest management training statewide to improve pest control effectiveness and reduce public health risks.
- Educate producers and agribusinesses to market new products.
- Strengthen the biotechnology research program at the Institute for Advanced Learning and Research (IALR) in Danville.

Linkages and Partnerships

- Partner with Virginia Farm Bureau, Virginia Agribusiness Council, Chesapeake Bay Foundation, and others to promote agricultural profitability and environmental sustainability.
- Advance state, national, and international strategies and programs and convey the relevance and economic value of international partnerships to local constituents.
- Implement the Local Government Leadership Academy in partnership with the Virginia Association of Counties, educating appointed government officials in leadership and decision making skills.
- Train extension agents on the Healthy Weights for Healthy Kids curriculum.
- Offer the Personal Financial Management Instruction Course to Virginians in compliance with the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005.
- Partner with the Virginia Department of Health and the Virginia Department of Social Services to provide education that reduces food-borne illnesses and nutrition related diseases.

Role in K-12 Systems Improvements

- Virginia 4-H will focus on leadership, citizenship, character education, and life skills focused on understanding self; communicating and relating to others; acquiring, analyzing and using information; problem solving and decision making; managing resources; and working through in-school and camping programs.
- Public school teachers and volunteers will be trained to implement the Character Counts character education program.