<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Program Type</th>
<th>Title</th>
<th>Department</th>
<th>Mode of Delivery</th>
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<tr>
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<td>Entomology</td>
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<td>Family Life and Youth Development</td>
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<td>Ecology and Evolutionary Biology</td>
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</table>

Date: December 2008
1. Name of Degree Program: Undergraduate Certificate in Biological Sciences

2. CIP Category: 26.0101 (BIO)

3. Level of Program: non-degree undergraduate certificate program

4. Brief Description of Program: We currently offer BS degrees in Biological Sciences and Zoology. This program would allow non-degree seeking students to obtain structured education in biology at NC State.

5. Timeframe: anticipate departmental and college approval Spring 2009

6. Current of Planned Interaction with other Campuses: none

7. Mode or Modes of Delivery: traditional and distance education

8. Rationale for the Program: The proposed certificate degree program is a response to the demand from non-degree seeking students to have official recognition of a structured educational program in biology. The courses in this program would be allowed to count toward a degree or minor if the student enrolls in a degree program or would stand alone as evidence of their training in these scientific disciplines. The degree programs address the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university’s distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed program will allow students to obtain a certificate in these scientific disciplines and improve accessibility by allowing them to earn the certificates via distance education. We also expect the proposed programs will help to attract students to our undergraduate programs.

9. Current Status: planning at departmental level

10. Month and Year of First Offering: Fall 2009 (traditional); Fall 2010 (DE)

11. Anticipated Initial Headcount Enrollment: 10 (each program)

12. Anticipated Number of New FTE Faculty Required for Initiation: none, program can be accommodated with current faculty and staff commitments to department
1. Name of Degree Program: Undergraduate Certificate in Zoology

2. CIP Category: 26.0701 (ZO)

3. Level of Program: non-degree undergraduate certificate program

4. Brief Description of Program: We currently offer BS degrees in Biological Sciences and Zoology. This program would allow non-degree seeking students to obtain structured education in zoology at NC State.

5. Timeframe: anticipate departmental and college approval Spring 2009

6. Current of Planned Interaction with other Campuses: none

7. Mode or Modes of Delivery: traditional and distance education

8. Rationale for the Program: The proposed certificate degree program is a response to the demand from non-degree seeking students to have official recognition of a structured educational program in zoology. The courses in this program would be allowed to count toward a degree or minor if the student enrolls in a degree program or would stand alone as evidence of their training in these scientific disciplines. The degree programs address the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university's distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed program will allow students to obtain a certificate in these scientific disciplines and improve accessibility by allowing them to earn the certificates via distance education. We also expect the proposed programs will help to attract students to our undergraduate programs.

9. Current Status: planning at departmental level

10. Month and Year of First Offering: Fall 2009 (traditional); Fall 2010 (DE)

11. Anticipated Initial Headcount Enrollment: 10 (each program)

12. Anticipated Number of New FTE Faculty Required for Initiation: none, program can be accommodated with current faculty and staff commitments to department
1. Name of Degree Program: Undergraduate Certificate in Horticultural Science
2. CIP Category: 01.0601
3. Level of Program: non-degree undergraduate certificate program
4. Brief Description of Program: Undergraduate certificate program in Horticultural Science relating to homeowners and professionals. Courses include introductory topics, plant propagation, home gardening, food production and sustainable horticulture.

Requirements: Five courses in Horticultural Science

Required Courses:

- HS 201 Principles of Horticulture
- HS 301 Plant Propagation

Required Electives (Choose 3 from the following List)

- HS 100 Home Horticulture or HS 1XX, Home Horticulture II
- HS 495C Viticulture
- HS 432 Permaculture
- HS 3XX Peri-Urban/ Sustainable Horticulture
- HS 451 Plant Nutrition
- HS 543 Food Production in Greenhouses and High Tunnels

5. Timeframe: Fall 2010
6. Current of Planned Interaction with other Campuses: None
7. Mode or Modes of Delivery: Distance Education
8. Rationale for the Program: We have experienced a large demand by NC citizens for Horticultural information that is readily available without coming to NC State’s campus. There are many groups of people seeking an accessible program ending in a professional credential. They include: amateurs, career changers, small business owners, and employees of small businesses. Agricultural Science teachers and NC Extension professionals are also seeking course work for professional development in Horticulture.
9. Current Status: Planning at the departmental level
10. Month and Year of First Offering: Fall 2010
11. Anticipated Initial Headcount Enrollment: 5-10, increasing every year
12. Anticipated Number of New FTE Faculty Required for Initiation: .5 FTE
1. Name of Degree Program: Undergraduate Certificate in Community and Environmental Sociology: Global and Local Sustainability
2. CIP Category: Non-degree Undergraduate Certificate program
3. Level of Program: Non-degree Undergraduate Certificate program
4. Brief Description of Program: The program will revolve on completion of four undergraduate courses that are upper-division. Each of the first three courses reflects a well-recognized aspect of global and local sustainability: 1) community; 2) environment; 3) development; 4) any one of the four listed optional courses that involve practical applications in a research setting. The curriculum will include: SOC 311 Community Relations, SOC 450 Environmental Sociology, SOC 342 International Development. Options for the fourth course to fulfill the 12 credit hour requirements of the certificate: SOC 492-493 - Applied Research (including a service learning component), SOC 351 - Population and Planning, SOC 440 - Social Change, SOC 513 - Community Organization and Development (permission of instructor required).
5. Timeframe: Spring 2010
6. Current of Planned Interaction with other Campuses: None
7. Mode or Modes of Delivery: Traditional
8. Rationale for the Program: Currently undergraduates at NCSU have no systematic program for intensely studying the many facets of sustainability and their interdependencies. As emphasized by the United Nations, this knowledge and training is crucial to the future of our community, the nation and the world. The certificate will address these needs and serve core missions in the CALS college and for NCSU, the UNC system and the state of North Carolina. The certificate uniquely aims to address issues of sustainability (community, environmental, economic and social development, equity) by emphasizing their interdependence while identifying holistic approaches that inform science and the public on all dimensions. Sociology explores how factors such as new technologies, changing economics and cultural values, political and economic fluctuations impact all aspects of our lives, including our families and communities, in rural areas, urban areas, and in the global community. The certificate follows the core mission of UNC Tomorrow (taken from UNC Tomorrow Executive Summary) such as personal and professional success of students in the 21st century and enhanced global competitiveness; enhanced economic transformation and community; enhanced capacity and commitment to respond to and lead economic transformation and community development; meeting the needs of rural and underserved areas of the state; improving health and wellness in North Carolina; addressing the state’s energy and environmental challenges; embracing environmental sustainability as a core value and augmenting community awareness of environmental and sustainability issues. The certificate also follows the mission of the CALS Strategic Plan (taken from CALS Strategic Plan) in addressing economic development and environmental sustainability; clean industries; high-value alternative agricultural enterprises; protection and enhancement of natural resources; provision for students-both on campus and beyond-the knowledge and skills they need to succeed in a rapidly changing world; production of well-trained, socially responsible graduates; conserving and improving the state’s natural resources and environment; and improving the health, well-being and quality of life of North Carolina’s individuals and communities.
10. Month and Year of First Offering: Fall 2009
11. Anticipated Initial Headcount Enrollment: 15
12. Anticipated Number of New FTE Faculty Required for Initiation: Zero
13. Other state university and NCSU units complemented: It will be of particular interest to UNC, East Carolina and North Carolina A&T State University. Aside from sociology students, the certificate will be of interest to students in the agricultural-technology-oriented majors (e.g., plant pathology, or animal sciences), the natural resource majors (such as forest ecology and management and wildlife ecology), and the basic biology majors (biology, biochemistry, genetics and bacteriology). The certificate will coordinate with multiple departments and concentrations including Agricultural Education, 4-H and Youth Development, Family Studies, Horticulture/Sustainable/Ecological Agriculture, International Programs.
14. Student career possibilities: Community official or leader, community and economic developer, community planner, health planner, environmental scientist, sustainable agriculture specialist, biotechnologist, county extension professional.
1. Name of Degree Program: Undergraduate Certificate in Feed Milling Management

2. CIP Category: 01.

3. Level of Program: Non-degree Undergraduate Certificate Program

4. Brief Description of Program: This certificate program is designed to provide a foundation in animal feed milling technology and management. The educational objectives are for the student to: 1) acquire an understanding of the functions of a modern feed mill; 2) learn standard operating procedures of a commercial feed mill; 3) apply academic skills to the challenges of operating a feed manufacturing facility. The courses in this certificate program will yield graduates with a fundamental knowledge about the global feed industry, feed mill design and manufacturing technology, operations and leadership, occupational safety, quality assurance, feed product formulation. Participants will also be required to complete a practical internship experience.

5. Timeframe: Fall 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: The feed manufacturing industry is a central and most essential component of the livestock and companion animal sector. Since animal production is the largest economic contributor to North Carolina agriculture as well in many other states in the southeast USA, the feed industry is of substantial importance as it accounts for about 70% of the cost of animal production. Consequently, there is a high demand for trained and skilled employees to serve the domestic and international feed industry. Because of its state of art educational feed mill and expert faculty, N.C. State University is the only University or college in the eastern USA with a comprehensive educational program that supports the integrated feed industry. The only other academic program majoring in feed sciences in the USA is offered at Kansas State University. As part of the food industry, the feed industry impacts almost everyone, therefore, advanced training in feed manufacturing and feed mill management are important to many people, including feed manufacturing industry employees, feed industry sales and service personnel, feed industry suppliers, food industry personnel, regulatory officials, extension agents, undergraduates and graduate students of animal, poultry, aquaculture, and veterinary sciences, and community college students.

9. Current Status: Seeking Departmental Approval – Paperwork has been completed

10. Month and Year of First Offering: January 2009

11. Anticipated Initial Headcount Enrollment: 15-20

12. Anticipated Number of New FTE Faculty Required for Initiation: 0 for initiation (1 for anticipated rapid state, national and international growth of this program to anticipated enrollment of 50 + students per AY).
1. Name of Degree Program: Undergraduate Certificate in Animal Science

2. CIP Category: 01.0901

3. Level of Program: Non-degree Undergraduate Certificate Program


5. Timeframe: Fall 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: The interest in the field of Animal Science is increasing rapidly. It is possible that enrollment would be higher if an undergraduate certificate were available through distance education. This would facilitate a basic Animal Science education for those currently working in the industry who do not have time to attend NCSU full time.

9. Current Status: Departmental planning stage

10. Month and Year of First Offering: August 2009

11. Anticipated Initial Headcount Enrollment: 10-20 students

12. Anticipated Number of New FTE Faculty Required for Initiation: 1.0 FTE
1. Name of Degree Program: Undergraduate Certificate in Entomology

2. CIP Category:

3. Level of Program: Non-degree Undergraduate Certificate Program

4. Brief Description of Program: This program will provide undergraduate or non-degree seeking students with an opportunity to gain knowledge and training in the fundamentals of basic and applied entomology via DE. It will include a course in general entomology, ENT425, a course in bees and beekeeping, ENT203, and a course in insects and their interactions with people, ENT201. These three courses will provide the student with an introduction to the science of Entomology. Areas of knowledge gained will include general appreciation of the diversity of insects, economic importance of insects including an introduction to management technologies for pest species, basic physiological aspects of insects, insect behavior, how insects impact human life and well being, and the biology, importance and management of honeybees.

5. Timeframe: Spring 2010

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: To meet a general interest by non-traditional students seeking background knowledge in entomology.


10. Month and Year of First Offering: Spring Semester 2010

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. **Name of Degree Program:** Undergraduate Certificate in Integrated Pest Management and Sustainable Agriculture

2. **CIP Category:**

3. **Level of Program:** Non-degree Undergraduate Certificate Program

4. **Brief Description of Program:** This program will provide undergraduate or non-degree seeking students with an opportunity to gain knowledge and training in general entomology, general plant pathology and concepts of sustainable agriculture. It will include an introductory course in agroecology, CS230, a course in general entomology, ENT425, and a course in principals of plant pathology, PP315. These three courses will provide the student with an introduction to insects and plant pathogens and to concepts of integrated pest management of these pest groups in both agricultural and non-agricultural settings. Areas of knowledge gained will include general appreciation of the diversity, biology, and ecology of insects and plant pathogens, economic importance of insects and plant diseases, an introduction to management technologies for pest species, and an appreciation for sustainable agricultural practices and how IPM is integral to achieving sustainability.

5. **Timeframe:** Spring 2010

6. **Current of Planned Interaction with other Campuses:** None

7. **Mode or Modes of Delivery:** Distance Education

8. **Rationale for the Program:** To meet a general interest by non-traditional students seeking background knowledge in contemporary methods of managing pest populations in ecologically and environmentally acceptable ways.

9. **Current Status:** Departmental Planning Stage

10. **Month and Year of First Offering:** Spring 2010

11. **Anticipated Initial Headcount Enrollment:** 10

12. **Anticipated Number of New FTE Faculty Required for Initiation:** None
1. Name of Degree Program: Undergraduate Certificate in Crop Science

2. CIP Category: 01.1101

3. Level of Program: Non-degree Undergraduate Certificate Program

4. Brief Description of Program: The production of food, feed, fiber and fuel crops is essential to the security and wellbeing of our local, national and global community. Issues such as global hunger, food safety, crop biotechnology, crop protection, genetic diversity and environmental protection are prominent concerns for crop producers, educators and researchers throughout the U.S. In this program, students will learn the fundamentals of sustainable agronomic crop production and the management of the soils in which they grow from Crop Science research and extension experts. Hands-on labs, field trips and class discussions help students understand how agronomic crop plants grow and how they are managed to maximize yields while protecting our natural resources.

5. Timeframe: Spring 2010

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: Until recently, students enrolling in agriculture related majors at NCSU and other land-grant systems across the mid-Atlantic were either raised on traditional row-crop farms or had work experiences in the production of agronomic crops. Today, however many students interested in areas such as sustainable ag, agroecology, crop biotechnology, plant breeding, ag education, extension education and agri-business management do not have a practical knowledge of how agronomic crops grow nor how they are managed. This certificate program will offer courses that provide a basic understanding of how agronomic crops are produced and how the soils in which they are grown are maintained. The certificate program would also be well suited for non-traditional students who need continuing credits for certification programs or for those who merely want to understand production and management of agronomic crops.

9. Current Status: Courses exist or are in the final stages of development

10. Month and Year of First Offering: Spring 2010

11. Anticipated Initial Headcount Enrollment: 5 to 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Undergraduate Minor in Biological Sciences via Distance Education

2. CIP Category: 26.0101

3. Level of Program: Undergraduate Minor

4. Brief Description of Program: We currently offer a BS degree and minor in Biological Sciences. The proposal is to provide access to earning the minor via distance education.

5. Timeframe: Spring 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: The proposal to offer a minor in Biological Sciences via distance education is in response to the demand from students to have greater accessibility to courses in a structured format that results in a minor. The degree program addresses the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university's distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed program will allow students to obtain the minor via distance education. We also expect the proposed program will help to attract students to our undergraduate programs.

9. Current Status: Planning at Departmental Level

10. Month and Year of First Offering: Fall 2010 (via distance education)

11. Anticipated Initial Headcount Enrollment: 5

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Concentration in Human Nutrition (Nutrition Sciences major)

2. CIP Category: 30.1901

3. Level of Program: Undergraduate

4. Brief Description of Program: The program will be a new concentration within the existing BS in Nutrition Sciences degree. The goal is to meet the need among a segment of prospective students to become qualified to consult and/or develop programming on healthy eating, weight management, diet planning and other public health-related activities necessary for improving quality of life and lowering health care costs, and to work with agricultural and food industries to help develop approaches associated with meeting these needs. The concentration will allow greater flexibility to include minors such as Psychology, Public Health, and Agroecology and will also include the option to complete a Didactic Program in Dietetics through existing or new Interinstitutional arrangements. This concentration will require fewer basic science courses than the existing Nutrition Science major (NTS) that currently prepares students for laboratory and experimental nutrition jobs and meets premedical requirements; instead it will allow students to focus more on courses in agricultural production, the social sciences (such as economics, political science, and psychology) and/or in food science.

5. Timeframe: Submission of proposal by end of 2009; enroll students in Fall 2010

6. Current of Planned Interaction with other Campuses: Collaboration with Meredith College for the Didactic Program in Dietetics assurance.

7. Mode or Modes of Delivery: Traditional, on-campus

8. Rationale for the Program: This program addresses the following issues in UNC Tomorrow: NC State Response:
   4.5 Our Health: “NC State faculty, staff and student teams are making contributions to medical research and practice across a broad range of areas including... nutrition and food safety...” Majors offered by The Nutrition Program are among those at NC State most closely tied to allied health careers. “We will focus our efforts on areas of critical health need in which we have special expertise, including ensuring a healthy food supply from both plant and animal sources, tapping into lessons from the social sciences to inform public policy decisions, and investigating technological solutions to health care problems."

9. Current Status: Departmental Planning; About ready to submit to College

10. Month and Year of First Offering: Fall 2010

11. Anticipated Initial Headcount Enrollment: 25

12. Anticipated Number of New FTE Faculty Required for Initiation: Two --- The program can begin with existing faculty. New faculty would be needed to apply for Accreditation by the Commission on Accreditation of Dietetic Education (CADE).
1. Name of Degree Program: Bachelor of Arts in Biological Sciences

2. CIP Category: 26.0101

3. Level of Program: Undergraduate Degree Program

4. Brief Description of Program: We currently offer a BS degree and minor in Biological Sciences. The proposal is to provide students with the option of earning a BA in Biological Sciences and a BA degree completion program via distance education.

5. Timeframe: Fall 2009

6. Current of Planned Interaction with other Campuses: none

7. Mode or Modes of Delivery: Traditional and Distance Education

8. Rationale for the Program: The proposal to offer a BA in Biological Sciences in both traditional delivery mode and via distance education is in response to the demand from students to have instruction in biology but with greater flexibility to have a more liberal arts education. We currently have approximately 1600 students majoring in Biological Sciences and many have expressed interest in being able to take more courses in the arts, humanities, and social sciences, double major, or take more courses in science education. We also have many students who would like to be able to complete a biology degree at NC State via distance education or mostly through distance education after having taken a core set of courses on the NC State campus or at another institution (e.g., NC community college). The proposed BA degree program addresses the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university’s distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed program will allow students to obtain the BA via both traditional and distance education delivery modes.

9. Current Status: Planning at the Department Level

10. Month and Year of First Offering: Fall 2010 (traditional and distance)

11. Anticipated Initial Headcount Enrollment: 50

12. Anticipated Number of New FTE Faculty Required for Initiation: Two
1. **Name of Degree Program:** Bachelor of Arts in Youth Development Leadership

2. **CIP Category:**

3. **Level of Program:** Undergraduate Degree Program

4. **Brief Description of Program:** The YDL undergraduate program will be an interdisciplinary program designed to meet the needs of non-formal youth development professionals who work with organizations such as 4-H, Boy Scouts, Girl Scouts, YMCA, YWCA, Boys and Girls Clubs, Parks and Recreation, Faith-based Communities and others. The program will include coursework in educational methodology, psychology, sociology, business, communication, volunteerism and grant writing.

5. **Timeframe:** Departmental approval is expected by January 2010

6. **Current of Planned Interaction with other Campuses:** There are plans to open discussions with ECU’s Family & Community Services Program as well as the possibility of a 2+2 program with Community Colleges for students currently enrolled in Early Childhood or School Aged Care curricula.

7. **Mode or Modes of Delivery:** Blended Traditional and Distance Education

8. **Rationale for the Program:** According to a John Robst article in Economics of Education Review, Robst states that workers who are mismatched in their degree choice and career earn less, which is a primary reason why some leave their current employment. In his book 7 Hidden reasons Employees Leave, Leigh Branham lists a mismatch of skills as his #2 reason. From January 2006 through June of 2008, NC Cooperative Extension filled 37 4-H agent positions. Given there are 101 positions; this represents a 36.6% turnover in 2.5 years. The cost of turnover to the organization based upon a $35,000 salary is between $12,000 and $35,000 depending upon calculator used. This computes to an economic loss of $444,000 to $1,295,000. While staggering, this does not address the loss of program impacts with youth in these counties, which are much harder to measure. In conversations with Boy Scouts, Boys and Girls Clubs and YMCA’s they have reported similar statistics and desire to assist us in co-creating a major that would be beneficial to all.

   The proposed program will also address Major Finding 4.3: UNC should be more actively involved in solving North Carolina’s public education challenges. By preparing a stronger non-formal youth development professional, additional gains can be made in after school programs that are aligned with the Standard Course of Study (SCOS), through the teaching of life skills, and in assisting teachers with additional SCOS curricula and alternative teaching methods proven successful

9. **Current Status:** Planning at Departmental Level

10. **Month and Year of First Offering:** January 2011

11. **Anticipated Initial Headcount Enrollment:** 40 on campus; 60 in 2+2 program

12. **Anticipated Number of New FTE Faculty Required for Initiation:** 5 FTE will be needed to fulfill the needs of both the 4-year program and 2+2 program. This would result in 30 hours of coursework being offered each semester.
1. Name of Degree Program: Bachelor of Science in Genetics
2. CIP Category: 26.0801
3. Level of Program: Undergraduate Degree Program
4. Brief Description of Program: The proposed 124-credit Genetics undergraduate major will prepare scientists for careers in genetics by exposing students to a breadth of fundamental science courses, as well as requiring in-depth study in specialized areas of genetics research. The coursework will consist of a strong background in the life, physical and mathematical sciences, with emphasis in Genetics, as well as required research and/or teaching experience, and significant writing and communication in the major. Students will be encouraged to participate in service and outreach activities through the Departmental of Genetics outreach program and the Undergraduate Genetics Club, as well as larger outreach opportunities through NC State University, in agreement with the Mandates 4.3 and 4.7 of the UNC Tomorrow Initiative. Graduates will have the focused training needed for today’s marketplace while having the breadth of training needed to adapt to the changing needs of industry, agriculture, research and education in the public and private sectors, addressing the findings of the UNC Tomorrow Initiative regarding our global readiness. It is expected that 40 students will enter the major in the fall semester of its first year and that the major will grow to reach its full enrollment of 160 students by the fourth year of implementation.

5. Timeframe: Approved at NC State- Fall 2008
6. Current of Planned Interaction with other Campuses: None
7. Mode or Modes of Delivery: Traditional, on-campus
8. Rationale for the Program: In 1988, the Department began offering the undergraduate Genetics minor, which has steadily grown in number of students during the past ten years and is now the largest minor in the College of Agriculture and Life Sciences, with 310 advised students in the minor during 2007-2008. Demand for Genetics coursework is at an all-time high; attendance at the department-sponsored undergraduate event each semester is strong (100–150 students); and an undergraduate Genetics Club was established in 2006. A petition, signed by 270 students from a variety of majors at NC State University, was submitted to NC State University administration requesting that an undergraduate major in genetics be established. Concomitant with student interest is a growing need for skilled workforce training in North Carolina to support life sciences industries and research programs in university and government laboratories. This program would be the only one of its kind in the State of North Carolina, and would likely draw students from neighboring states that do not offer an undergraduate Genetics major. The timing for the undergraduate major, in terms of student demand, departmental ability to offer, and workforce needs is excellent. Building on the fifty-year history of the NC State Department of Genetics, we believe that the establishment of an undergraduate Genetics major at NC State University will be an “efficient use of available resources, complementing existing programs and avoiding unnecessary duplication” as mandated in the UNC Tomorrow Initiative.

9. Current Status: Completing approval process at NC State
10. Month and Year of First Offering: Fall 2009
11. Anticipated Initial Headcount Enrollment: 40
12. Anticipated Number of New FTE Faculty Required for Initiation: Additional faculty beyond those already committed are not required for initiation of the major; however, enrollment increases may require additional faculty FTE to meet the instructional needs in this major and for courses required by other majors.
1. Name of Degree Program: Bachelor of Science in Soil and Land Development

2. CIP Category: 01.1299

3. Level of Program: Undergraduate Degree Program

4. Brief Description of Program: The proposed degree program is to prepare graduates to become professional (licensed) soil scientists. The focus is on evaluation of land for development. Opportunities exist in both the private and governmental/regulatory sectors. This program will integrate soil science expertise with expanded training in the legal, financial, business aspects of real estate development.

5. Timeframe: Fall 2009

6. Current of Planned Interaction with other Campuses: none

7. Mode or Modes of Delivery: Traditional, On-Campus

8. Rationale for the Program: The proposed program is very closely aligned with the UNC Tomorrow Initiative. It is designed to produce professionals with the expertise to assist in community growth while protecting health and the environment. Proper land evaluation for disposing of wastes is a direct concern for all citizens. Delineating environmentally sensitive areas such as wetlands is crucial to maintaining environmental quality.

9. Current Status: The proposed degree program has passed through the College of Agriculture and Life Sciences and the University Courses and Curriculum Committee. It is now with the Provost for approval prior to moving to the UNC General Administration for review.

10. Month and Year of First Offering: August 2009

11. Anticipated Initial Headcount Enrollment: 15 in first year with 50 in year 4

12. Anticipated Number of New FTE Faculty Required for Initiation: none
1. Name of Degree Program: Bachelor of Science in Agricultural Science (Distance Education)

2. CIP Category: 01.0000

3. Level of Program: Undergraduate Degree Program: Brief Description of Program: The Bachelor of Science in Agricultural Science degree program has three major components: (1) a strong general education preparation, (2) preparation in agricultural disciplines provided by courses across agricultural disciplines followed by study in two specific agricultural disciplines, (3) agricultural leadership skills that lead to success in working in teams and within agricultural organizations. This degree program is target toward students with diverse agricultural interests. Many agricultural careers expect graduates to have some level of expertise within a specific discipline, but require that they have a broad background in agriculture in order to work effectively with a diverse agricultural clientele. Students are given the option of selecting a minimum of two agricultural discipline areas for study, following an introduction to the broad field of agriculture through introductory courses in a variety of agricultural discipline areas. Students also complete a battery of courses in agricultural leadership, and can earn a Minor in Agricultural Leadership as part of the degree.

4. Timeframe: The proposal for the distance education delivery of this degree program will be developed and submitted through appropriate university channels during the early part of the 2009-2010 academic year, with an anticipated starting date for the program of August 2010.

5. Current of Planned Interaction with other Campuses: None

6. Mode or Modes of Delivery: Distance Education

7. Rationale for the Program: Agriculture is North Carolina’s largest industry, employing over 20% of the total work force in the state. Approximately 27 cents of every dollar earned in the state comes from agriculture. Yet there is a state and national shortage of graduates with agricultural degrees who are prepared to enter the agricultural industry. A recent report from the United States Department of Agriculture indicates that for the period of 2005-2010, there will be approximately 3,000 more jobs in agriculture than graduates with agriculture degrees. Students with agricultural degrees at North Carolina State University have no trouble finding employment in agriculture. Only 2% of the graduates with agricultural majors are still seeking employment six months following graduation. Increasing the number of agricultural majors from North Carolina State University is, therefore, critical to the economy of this state. Many careers in agriculture do not require the highly specialized training that students receive within a single agricultural discipline. Instead, these positions, while requiring knowledge of agriculture, are best suited for graduates that understand the broad spectrum of agricultural disciplines and have some specialized study in a specific discipline. In addition, the agricultural industry is asking for graduates who can lead – not only those who possess personal leadership skills, but also have the ability to work in teams effectively and understand principles of organizational leadership. Employers add to these skills the ability to communicate orally and in writing within the context of agriculture. The proposed degree program is designed to provide exactly this type of preparation for students.

8. Current Status: There are sufficient distance education courses in agriculture available at the present time to support this degree program. Additional distance education courses in agriculture are expected to be developed annually. The agricultural leadership courses required in this program are currently available via distance education

9. Month and Year of First Offering: August, 2010

10. Anticipated Initial Headcount Enrollment: 25

11. Anticipated Number of New FTE Faculty Required for Initiation: 1.0
1. Name of Degree Program: Bachelor of Science in Agroecology

2. CIP Category: 01.1101

3. Level of Program: Undergraduate Degree Program

4. Brief Description of Program: Agroecology is emerging as an interdisciplinary field that expands our focus to analyze the entire food system from the sustainability of production to consumption. Agroecology education can put agricultural production, natural resource management and the social aspects of agriculture into a balanced perspective that can guide the development of sustainable food systems. In this program, students will learn about the latest practices and research innovations in sustainable agriculture locally and internationally through classroom studies, hands-on experiences, field trips and real-world problem solving. The multidisciplinary nature of agroecology as a discipline lends itself to participatory learning and enhancing critical-thinking skills which will better prepare students for solving the increasingly complex challenges facing our food system.

5. Timeframe: Fall 2011

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, On-Campus

8. Rationale for the Program: Agricultural graduates are increasingly challenged with complex social and environmental concerns about the way in which agriculture is practiced. The whole-system approach of agroecology can prepare students to meet the increasingly complex challenges and sustainable solutions for our food and natural resource systems. North Carolina State University has been nationally recognized for its sustainable agriculture research, education and outreach programs and we have developed an undergraduate Agroecology Minor Program and more recently an Agroecology concentration in the new Plant and Soil Sciences undergraduate major. The agroecology courses have been successful in attracting a diversity students, including those from majors in agriculture education and extension, agronomy, animal science, botany, ecology, environmental sciences, environmental engineering, forestry, horticultural science, political science, and soil science. We know from direct experience that students from these diverse majors are searching for a multidisciplinary program in agroecology that emphasizes systems-level approaches and sustainable practices in agriculture. A degree program in agroecology that emphasizes critical thinking and active learning exercises will increase student understanding and interest in agriculture and expand future career options. The appeal of this program is easily extended to students interested in careers in natural resource management, environmental law, government policy, and non-governmental organizations.

9. Current Status: Planning stage in Department

10. Month and Year of First Offering: Fall 2011

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: 1.0
1. Name of Degree Program: Accelerated Bachelor’s-Master’s in Animal Science

2. CIP Category: 01.0901

3. Level of Program: Undergraduate - Masters

4. Brief Description of Program: The Animal Science Accelerated Bachelor’s-Master’s (ASBM) Program is designed to provide exceptional undergraduate students in Animal Science with a curriculum that will facilitate completion of the BS degree and the Master’s degree in a total of 5 or 5½ years. It provides an opportunity for exceptional undergraduate students at NC State to double count up to 12 credits and obtain a non-thesis Master’s degree within 12 months of completing the Bachelor’s degree or obtain a thesis-based Master’s degree within 24 months of completing the Bachelor's degree.

5. Timeframe: Approved by Department and College – Fall 2008; to be submitted to Graduate School.

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional

8. Rationale for the Program: This program is designed to offer our most advanced students the opportunity to complete both their BS and MS degree programs on an accelerated pace. Exceptional students are completing their BS degree programs in a relatively short time-frame due to the fact that they are carrying forward many college credits from high school course work into their collegiate programs. These students, as they continue to do exceptionally well as they pursue their animal science degree program, are excellent candidates for advanced training in the animal sciences. This BS-MS program allows such students to obtain an advanced degree which allows them to pursue careers in research and practice within animal agriculture and the biomedical sciences. This program addresses several issues in UNC Tomorrow: NC State Response including: 4.1 Our Global Readiness: Science in Support of our Economy, Citizens, Nation, and World....this program will provide advanced training in animal sciences, a basic discipline support for agriculture, a major economic contributor not only for our state but also for our nation; 4.2 Our Children and Their Future: Improving Public Education....this program increases the likelihood that our top-most students will consider pursuing advanced graduate degrees, exposing them to improved opportunities for employment in agriculture and the biomedical sciences; 4.4 Our Communities and Economic Transformation....increased availability for advanced training in animal agriculture and biotechnology will provide opportunities for developing a strong agricultural economy in our state; 4.5 Our Health....the availability of graduate coursework in the disciplines of animal science (nutrition, genetics and physiology) will expand the opportunities for training in areas critical for advancing basic agricultural and biomedical research in the state and nation.

9. Current Status: In review at NC State

10. Month and Year of First Offering: Spring, 2009

11. Anticipated Initial Headcount Enrollment: 2

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Accelerated Bachelor’s – Master’s in Plant Biology
2. CIP Category: 26.0301
3. Level of Program: Undergraduate and Masters
4. Brief Description of Program: The Department of Plant Biology plans to offer a 5-year accelerated program in which students earn both the Bachelor of Science and non-thesis Master of Plant Biology (MR) degrees. Qualified advanced undergraduate Plant Biology majors who apply and are admitted to the program will take 12 credit hours of approved advanced courses for the bachelor’s degree that can be double-counted toward a master’s degree. Students completing the bachelor’s degree requirements after the fourth year, and who are admitted to the NC State Graduate School, will then complete the remaining requirements for the master’s degree in one additional year. The ABM will allow students to focus their advanced undergraduate and graduate-level coursework in one of two major sub-disciplinary areas, depending on their career interests and objectives: (1) plant biotechnology, and cell and molecular biology, and (2) plant ecology, biodiversity, and conservation. All students will be required to take a graduate plant biology colloquium course as a part of their coursework and serve as a Plant Biology teaching assistant for one semester in order to develop and improve professional communication skills in the discipline. Students will also be required to carry out a non-thesis, special topics project under the direction of a faculty advisor. Finally, students will present the findings from their project in a departmental seminar and will undergo a comprehensive oral exam. Students who complete both degrees in the abbreviated timeframe will have specialized coursework and masters-level training in plant biology that will make them competitive for positions in the plant biotechnology industry, plant and environmental conservation agencies, and state and federal agencies, especially in cases where a master’s degree is required. This program will also provide students with excellent preparation for admission to Ph.D. programs in plant biology or other plant-based disciplines.
5. Timeframe: In departmental review, anticipated approval during Spring 2009
6. Current of Planned Interaction with other Campuses: None
7. Mode or Modes of Delivery: Traditional, on-campus instruction
8. Rationale for the Program: Students who graduate with bachelor’s degrees in Plant Biology are competitive for a number of opportunities, but many of them need experience before they can be hired. Plant biotechnology companies, government agencies, and plant conservation and management organizations require a master’s degree for many of their competitive starting positions. The ABM program will help to meet the needs of prospective employers by providing them with qualified master’s degree recipients from the only plant biology program in the state. At the same time, the program will enable students to receive focused training while decreasing the amount of time required to complete a master’s degree. Additionally, an increasing number of plant biology undergraduate majors are entering NC State as freshmen with substantial advanced placement (AP) and other credit earned in high school, thus making it possible for them to complete the B.S. degree requirements in 3-3.5 years. Admission to the ABM program would provide an avenue for students with advanced placement to complete a master’s degree in nearly the same amount of time required for a bachelor’s degree (four years) before seeking employment or additional training. The structure of this program is consistent with the UNC Tomorrow report findings and recommendations by preparing students for successful professional and personal lives in the 21st century (4.1.1), and increasing access to educational programs (4.2.1).
9. Current Status: In Departmental Review
10. Month and Year of First Offering: August 2010
11. Anticipated Initial Headcount Enrollment: 3-4
12. Anticipated Number of New FTE Faculty Required for Initiation: .25 FTE if programs becomes larger than 3-4 students per year.
1. Name of Degree Program: Accelerated Bachelor’s – Master’s in Food Science

2. CIP Category: 01.1001

3. Level of Program: Undergraduate and Masters

4. Brief Description of Program: The program will be a modification of the existing Master of Food Science degree from Option A, with an exam by a committee of 3 faculty, to Option B, with a check-off for completion of program requirements by the Director of Graduate Programs. The accelerated option will allow advanced undergraduate students to count 12 credits of course work toward both the B.S. and M.S. degrees according to the rules for such programs established by the Graduate School. The Master of Food Science degree has been used infrequently in our Department, but there is now increased participation from international students. The proposed change will reduce confusion surrounding defense of the non-thesis program to faculty who may not have been the student’s course instructors. The students will still complete an independent project and normally report the result of the project in a seminar. The accelerated program is like to increase graduate enrollment and make the accelerated degree option that is offered to select international students available to NCSU students.

5. Timeframe: Submission is planned by the end of 2009 to enroll students in Spring 2010

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, on-campus and Distance Education

8. Rationale for the Program: This program addresses several issues in UNC Tomorrow: NC State Response:
   • 4.1 Our Global Readiness: Science in Support of our Economy, Citizens, Nation, and World. Students in this program may complete their last one or two semesters at different physical locations that allow them to interact with other institutions, resources and service opportunities. “The new North Carolina Research Campus at Kannapolis presents a remarkable new opportunity for interinstitutional collaboration in translational research on the science of nutrition and human health." This degree is commonly used by international and U.S. students who have funding from their home country, family, or other sources for a limited time and need the most efficient path to their degree. Our students could also complete this degree while on exchange status in another country.

   • 4.4 Our Communities and Economic Transformation: “UNC should be more actively engaged in enhancing the economic transformation and community development of North Carolina’s regions and the state as a whole.” Food Science is closely allied with value-added processing of the state’s extensive agricultural commodities.

   • 4.5 Our Health: “NC State faculty, staff and student teams are making contributions to medical research and practice across a broad range of areas including... nutrition and food safety...” Majors in Food Science often complete our Food Safety minor to increase their awareness in this health related field.

9. Current Status: Planning at Departmental Level

10. Month and Year of First Offering: Fall Semester 2009

11. Anticipated Initial Headcount Enrollment: 5

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Accelerated Bachelor’s – Master’s in Biological Sciences

2. CIP Category: 26.0101

3. Level of Program: Undergraduate and Masters

4. Brief Description of Program: We currently offer BS degrees in Biological Sciences and Zoology, and MS and non-thesis MR degree in Zoology and propose to offer a BA in Biological Sciences and a Master of Environmental Assessment (separate proposals). This program would allow exceptional undergraduate biology and zoology students at NC State to obtain a Master of Zoology or Master of Environmental Assessment degree (both non-thesis degrees) within 12 months of completing the Bachelor's degree or obtain a Master of Science in Zoology degree (which requires a thesis) within 18 months of completing the Bachelor's degree. The key feature of the program is that students can count up to 12 credit hours of graduate level courses both towards their Bachelor’s degrees (in Biological Sciences or Zoology) and towards their subsequent Master’s degrees.

5. Timeframe: Anticipate Departmental Approval January 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, on-campus

8. Rationale for the Program: The proposed degree programs are a response to student and employer demand for greater accessibility to master degrees in life sciences areas and the growth in life science, health professions, and environmental management employment in NC. The MS and MR degrees in Zoology help prepare students for further graduate study in life sciences and the human health and veterinary professions and as terminal degrees for employment in the life sciences. The degree programs also address the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university’s distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed programs will allow students to obtain their master degree more quickly and improve accessibility by allowing them to earn their non-thesis master degree (ZO and EA) via distance education. We also expect the proposed programs will help to attract top students to our undergraduate programs and encourage these students to remain at NCSU for their MS or MR degree.

9. Current Status: Planning at Departmental Level

10. Month and Year of First Offering: August 2009

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Accelerated Bachelor’s – Master’s in Zoology

2. CIP Category: 26.0701

3. Level of Program: Undergraduate and Masters

4. Brief Description of Program: We currently offer BS degrees in Biological Sciences and Zoology, and MS and non-thesis MR degree in Zoology and propose to offer a BA in Biological Sciences and a Master of Environmental Assessment (separate proposals). This program would allow exceptional undergraduate biology and zoology students at NC State to obtain a Master of Zoology or Master of Environmental Assessment degree (both non-thesis degrees) within 12 months of completing the Bachelor’s degree or obtain a Master of Science in Zoology degree (which requires a thesis) within 18 months of completing the Bachelor’s degree. The key feature of the program is that students can count up to 12 credit hours of graduate level courses both towards their Bachelor’s degrees (in Biological Sciences or Zoology) and towards their subsequent Master’s degrees.

5. Timeframe: Anticipate Departmental Approval January 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, on-campus

8. Rationale for the Program: The proposed degree programs are a response to student and employer demand for greater accessibility to master degrees in life sciences areas and the growth in life science, health professions, and environmental management employment in NC. The MS and MR degrees in Zoology help prepare students for further graduate study in life sciences and the human health and veterinary professions and as terminal degrees for employment in the life sciences. The degree programs also address the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university’s distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed programs will allow students to obtain their master degree more quickly and improve accessibility by allowing them to earn their non-thesis master degree (ZO and EA) via distance education. We also expect the proposed programs will help to attract top students to our undergraduate programs and encourage these students to remain at NCSU for their MS or MR degree.

9. Current Status: Planning at Departmental Level

10. Month and Year of First Offering: August 2009

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Accelerated Bachelor’s – Master’s in Environmental Assessment

2. CIP Category: 03.0103

3. Level of Program: Undergraduate and Masters

4. Brief Description of Program: We currently offer BS degrees in Biological Sciences and Zoology, and MS and non-thesis MR degree in Zoology and propose to offer a BA in Biological Sciences and a Master of Environmental Assessment (separate proposals). This program would allow exceptional undergraduate biology and zoology students at NC State to obtain a Master of Zoology or Master of Environmental Assessment degree (both non-thesis degrees) within 12 months of completing the Bachelor's degree or obtain a Master of Science in Zoology degree (which requires a thesis) within 18 months of completing the Bachelor's degree. The key feature of the program is that students can count up to 12 credit hours of graduate level courses both towards their Bachelor’s degrees (in Biological Sciences or Zoology) and towards their subsequent Master’s degrees.

5. Timeframe: Anticipate Departmental Approval January 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: The proposed degree programs are a response to student and employer demand for greater accessibility to master degrees in life sciences areas and the growth in life science, health professions, and environmental management employment in NC. The MS and MR degrees in Zoology help prepare students for further graduate study in life sciences and the human health and veterinary professions and as terminal degrees for employment in the life sciences. The degree programs also address the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university’s distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed programs will allow students to obtain their master degree more quickly and improve accessibility by allowing them to earn their non-thesis master degree (ZO and EA) via distance education. We also expect the proposed programs will help to attract top students to our undergraduate programs and encourage these students to remain at NCSU for their MS or MR degree.

9. Current Status: Planning at Departmental Level

10. Month and Year of First Offering: August 2010

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Graduate Certificate in Environmental Assessment

2. CIP Category: 03.0103

3. Level of Program: Graduate Level - Masters

4. Brief Description of Program: The proposed graduate certificate program is intended to provide advanced education in the theory and practice of assessing the risks of pollutants to human health and the natural environment. The scope of this program will focus on pollutants regulated by state and federal governments and how to assess risks of pollutants at an advanced level.

5. Timeframe: Proposed start date of August 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: This proposed degree program is in keeping with a number of NCSU’s responses to the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students” and NCSU’s response states: “In our transformation of graduate education, NC State must build on our existing successful models for graduate education, but also ensure that we prepare students with breadth of knowledge, real-world experience, and the practical skills desired by employers” and specifically mentions professional masters degree programs in areas “to address North Carolina workforce needs—e.g., in renewable-energy systems, transportation, nutrition, food safety, science and technology communication, environmental assessment, applied physics, geographic information systems, human development and family sciences, and biopharma.” (emphasis ours). Second, in the section “Access and Affordability of Graduate Education” the reports states that NC State will “work with academic programs and the university's distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” Finally, the UNC-Tomorrow commission states that “UNC should assume a leadership role in addressing the state’s energy and environmental challenges.” In addition, the proposed program was specifically cited in NC State’s most recent Compact Planning cycle.

9. Current Status: In NC State review process

10. Month and Year of First Offering: August 2009

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Graduate Certificate in Animal Science

2. CIP Category: 01.0901

3. Level of Program: Masters Level Graduate Certificate

4. Brief Description of Program: This graduate certificate program would have an on-campus version as well as a distance education version and would essentially represent the first year of our current Master of Animal Science non-thesis (Option B) graduate degree program. This new certificate program would require a total of 18 credit hours of course work in the animal sciences and related disciplines. Students can choose to emphasize basic science, education or business perspectives within their core and elective course choices.

5. Timeframe: Anticipated departmental approval in Spring 2010 with planned start date of Fall 2010.

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: We have a number of industry clientele as well as NCSU alumni who have expressed interest in the availability of a certificate program. In addition, we have had international students express interest in such a program. This certificate program addresses several issues in *UNC Tomorrow: NC State Response* including: 4.1 *Our Global Readiness: Science in Support of our Economy, Citizens, Nation, and World*....this program will provide advanced training in animal sciences, a basic discipline support for agriculture, a major economic contributor not only for our state but also for our nation. This will represent a degree program in which that students from both North Carolina, the US and other countries can fully participate; 4.2 *Our Children and Their Future: Improving Public Education*...this program improves access for students to NC State University courses; 4.4 *Our Communities and Economic Transformation*...increased availability for advanced training in animal agriculture and biotechnology will provide opportunities for developing a strong agricultural economy in our state; 4.5 *Our Health*...the availability of online coursework in the disciplines of animal science (nutrition, genetics and physiology) will expand the opportunities for training in areas critical for advancing basic agricultural and biomedical research in the state and nation.

9. Current Status: Departmental Planning Stage

10. Month and Year of First Offering: Fall 2010

11. Anticipated Initial Headcount Enrollment: 5

12. Anticipated Number of New FTE Faculty Required for Initiation: 0.5 FTE
1. Name of Degree Program: Graduate Certificate in Crop Science

2. CIP Category: 01.1102

3. Level of Program: Master Level Graduate Certificate

4. Brief Description of Program: The Certificate program will be aimed at the agricultural professional (i.e. agricultural agent, consultant, certified crop advisor) who is employed and does not have the time or the circumstance to further his or her education via on-campus instruction. This program, while largely aimed at North Carolina citizens, will be attractive to out-of-state and possibly out-of-country agricultural professionals.

5. Timeframe: Fall 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

1. Rationale for the Program: Many agricultural professionals wish to further their education beyond the baccalaureate level. These people are involved in extension and research in both the private and public sectors. A distance graduate certificate will allow them to further their education without traveling to campus, thus avoiding loss of work time. There is a demand for a distance graduate-level offering from Crop Science.

8. Current Status: Departmental Planning

9. Month and Year of First Offering: Fall 2009

10. Anticipated Initial Headcount Enrollment: 5

11. Anticipated Number of New FTE Faculty Required for Initiation: 1.0
1. Name of Degree Program: Master of Science in Environmental Assessment

2. CIP Category: 03.0103

3. Level of Program: Graduate Level - Masters

4. Brief Description of Program: The proposed graduate degree program is intended to provide advanced education in the theory and practice of assessing the risks of pollutants to human health and the natural environment. The scope of this program will focus on pollutants regulated by state and federal governments and how to assess risks of pollutants at an advanced level.

5. Timeframe: Proposed start date of August 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: This proposed degree program is in keeping with a number of NCSU’s responses to the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students” and NCSU’s response states: “In our transformation of graduate education, NC State must build on our existing successful models for graduate education, but also ensure that we prepare students with breadth of knowledge, real-world experience, and the practical skills desired by employers” and specifically mentions professional masters degree programs in areas “to address North Carolina workforce needs—e.g., in renewable-energy systems, transportation, nutrition, food safety, science and technology communication, environmental assessment, applied physics, geographic information systems, human development and family sciences, and biopharma.” (emphasis ours). Second, in the section “Access and Affordability of Graduate Education” the reports states that NC State will “work with academic programs and the university's distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” Finally, the UNC-Tomorrow commission states that “UNC should assume a leadership role in addressing the state’s energy and environmental challenges.” In addition, the proposed program was specifically cited in NC State’s most recent Compact Planning cycle.

9. Current Status: In NC State review process

10. Month and Year of First Offering: August 2009

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Master of Zoology (Option B via Distance Education)

2. CIP Category: 26.0701

3. Level of Program: Graduate – Master’s level

4. Brief Description of Program: We currently offer a non-thesis master’s degree (MR) in Zoology via traditional delivery and propose to offer this degree via distance education.

5. Timeframe: Anticipate Departmental Approval January 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: The proposed distance education degree program address the following in the UNC-Tomorrow report. First, the UNC-T report urges that “UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students”. Second, in the section “Access and Affordability of Graduate Education” the NCSU response to the UNC-T report states that NC State will “work with academic programs and the university's distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” The proposed program will allow students to obtain their non-thesis master degree via distance education.

9. Current Status: Planning at Departmental Level

10. Month and Year of First Offering: August 2010 (via distance education)

11. Anticipated Initial Headcount Enrollment: 10

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Master of Science in Family Life and Youth Development
2. CIP Category: 19.0701
3. Level of Program: Graduate Level – Masters
4. Brief Description of Program: The field of family and youth development is a growing field on many fronts. Many of the careers arising from this course of study can be found at the community level. With an advanced degree, professionals will be prepared to serve youth and families in the context of their communities with an understanding of their developmental needs and the resources available to them. Students will enter the program interested in working with families and youth and select whether they prefer to work more directly with youth in the contexts of their families and communities or families and their children in the context of communities. This program will serve both interests, but the career choices vary. Those who prefer to work more directly with youth may work with Four-H, Boys and Girls Clubs, Youth mentoring, Scouting, camping or "Y" programs, to name a few or the large youth serving organizations. Professionals who work with families may work with child are programs, parent education, family resource centers, child health programs, military family life programs, gerontology, or marriage enrichment programs.

Student choices are tailored to the career choice through the degree program. All students will complete 18-21 hours of core courses including the following:

- Theories in Child and Youth Development or Theories in Family Science
- Applied Concepts in Child and Youth Development or Applied Concepts in Parenting and Family Life Education
- Program Development and Evaluation in Family and Youth Settings
- Supervised Professional Experience in Family Life and Youth Dev.
- Family and Youth Professionals as Leaders or Administration and Supervision in Family Life and Youth Settings
- Applied Research Methods in Youth and Family Settings or Research in Adult and Higher Education

There will be a thesis and non-thesis option.

5. Timeframe: Program has been approved at Department and College and has been submitted to University level
6. Current of Planned Interaction with other Campuses: None
7. Mode or Modes of Delivery: Mostly Distance Education
8. Rationale for the Program: Currently the 4-H Youth Department has been in a collaboration with the College of Education and the Department of Family & Consumer Sciences has been in an academic collaboration with UNC-G. With the merged 4-H and FCS departments, a combined program is more efficient and builds on the strengths of the total faculty. This proposal supports the UNC initiatives to increased educational programs and support professional development for the citizens of North Carolina. In addition, the graduates of the program will be prepared to address improvements needed in the educational program in the state including elements of youth and parental engagement in academic success. Because the program focuses on prevention of poor outcomes, the economy and the health and wellness of families will be affected in turn (in terms of cost savings for juvenile justice systems, foster care, child maltreatment and other negative outcomes).
9. Current Status: In NC State review
10. Month and Year of First Offering: August 2010
11. Anticipated Initial Headcount Enrollment: 5
12. Anticipated Number of New FTE Faculty Required for Initiation: 2.5 FTE
1. Name of Degree Program: Masters of Science in Phytochemicals and Health (Professional Masters Degree)
2. CIP Category: 26.0301 or 26.0502
3. Level of Program: Masters – Professional Masters
4. Brief Description of Program: The Departments of Plant Biology, Microbiology, and Food, Bioprocessing and Nutrition Sciences plan to jointly offer a Master’s degree program entitled “Master’s in Phytochemicals and Health” (MPH). We anticipate a 30-36 credit hour program where students will receive the training necessary for them to pursue careers in the numerous nutrition and health related industries in North Carolina that capitalize on the capacity for natural products to enhance human health and longevity. In the first year of the program students will receive coursework in three major areas; the growth, genetics, physiology and biochemistry of the plants that produce phytochemicals, the physiological systems in humans that are the targets for phytochemicals, and the business practices used in the phytochemical industries. The program will be co-administered between the NCSU Plants for Human Health Institute (PHHI) at Kannapolis and the Plant Biology Department on the NCSU main campus. The PHHI and other academic and industry partners on the NCRC will provide an integrated pipeline for internships during the summer and in the second year. In addition to finishing their subject-based coursework, the students will participate in a specialized case studies course. This will be a project driven course that is designed to maximize student exposure to the natural products, functional foods, and phytopharmaceuticals industry sectors. In this degree program we will also focus on giving students the professional skills necessary for successful careers in industry. Where possible, every syllabus will stress team-work and communication skills, for example. The program will require 1.0 faculty FTE and a half time teaching technician position.

5. Timeframe: Spring 2011

6. Current of Planned Interaction with other Campuses: Interactions are envisioned among the UNC system schools at the NC Research Campus in Kannapolis and in western NC where the herbal and botanicals industry is centered. The initial interactions would center among NC State in Raleigh, The Mountain Research Center in Mills River and the UNC system faculty housed at the North Carolina Research Campus in Kannapolis. In the future the program may involve additional campuses including UNC Greensboro, Western Carolina, and UNC Asheville.

7. Mode or Modes of Delivery: Traditional, on-campus and via Distance Education

8. Rationale for the Program: This new degree program bridges the academic strengths of the main NCSU campus, the transdisciplinary discovery research new NC Research Campus at Kannanpolis and the emerging need for sustainable and validated products for the NC medicinal herb industry in western NC. The overarching programmatic focus will be on those phytochemical components of food crops that interact with human therapeutic targets to protect against disease and bolster metabolism and human performance enhancement. Training students through this program meets several key recommendations of the UNC Tomorrow report including preparing students for successful professional and personal lives in the 21st century (4.1.1), seeking to align appropriate campus programs with the strategic economic plans of their regions and the state (4.4.3), leading in improving the health and wellness of all people and communities in the state (4.5).

9. Current Status: Planning Stages

10. Month and Year of First Offering: August 2011

11. Anticipated Initial Headcount Enrollment: 6-8 students

12. Anticipated Number of New FTE Faculty Required for Initiation: 1.0
1. Name of Degree Program: Masters of Science in Nutrition, Food and Feed Sciences (Professional Master’s Degree)
2. CIP Category: 30.1901
3. Level of Program: Graduate Level - Masters
4. Brief Description of Program: The program will be a concentration within the existing Master of Nutrition and Master of Food Science degrees. A track in Feed Science will expand existing online course offerings to accommodate growing trends for vertical integration in the animal nutrition industry. NCSU has a new state-of-the-art feed mill due to a $5 million investment by the state and the feed industry. Results of research and practice with this facility can be made available around the world through this distance education initiative. Students can come to Raleigh for a short-term internship at the feed mill. As the world economy expands, a growing demand for meat and need to efficiently use agricultural byproducts is opening more employment possibilities for graduates of this program in animal feed science. The track in Human Nutrition, Food and Bioprocessing will meet the need among a segment of prospective students to become qualified to consult on healthy eating, weight management, diet planning and other disease preventing activities necessary for lowering health care costs, and to work in industries developing products and services associated with these needs. The Professional Science Masters aspect of this program will add a component of business courses and practical experience to nutrition and related science course work.
5. Timeframe: Submission is planned by the end of 2008 to enroll students in Fall 2009
6. Current of Planned Interaction with other Campuses: Initial contact has been made with East Carolina University, which also has a Distance Education Master of Science in Nutrition. Other Institutions involved in the NC Research Campus may collaborate with this program. Elective and business courses can come for those listed at UNC Online.
7. Mode or Modes of Delivery: Distance Education
8. Rationale for the Program: This program addresses several issues in UNC Tomorrow: NC State Response:
   • 4.1 Our Global Readiness: Science in Support of our Economy, Citizens, Nation, and World. Students in this program may have different physical locations that allow them to interact with other institutions, resources and service opportunities. “The new North Carolina Research Campus at Kannapolis presents a remarkable new opportunity for interinstitutional collaboration in translational research on the science of nutrition and human health.” Nutrition and food safety are specifically mentioned as areas for expansion of Professional Science Masters under the initiative, “Transforming Graduate Education”.
   • 4.2 Our Citizens and their Future: “Access to Higher Education: UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students...” Delivery of this program by Distance Education broadens the access to more North Carolina Citizens. “Under this initiative, the Graduate School at NC State will work with the UNC General Administration to identify areas of greatest need for advanced degrees and certificates throughout the state of North Carolina, and then work with academic programs and the university's distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.”
   • 4.5 Our Health: “NC State faculty, staff and student teams are making contributions to medical research and practice across a broad range of areas including... nutrition and food safety...” Majors offered by The Nutrition Program are among those at NC State most closely tied to allied health careers.
10. Month and Year of First Offering: August 2009
11. Anticipated Initial Headcount Enrollment: 5-10
12. Anticipated Number of New FTE Faculty Required for Initiation: 1.5 FTE
1. Name of Degree Program: Masters of Science in Crop Science (Professional Master’s Degree)

2. CIP Category: 01.1102

3. Level of Program: Graduate Level – Masters

4. Brief Description of Program: The Professional Master's of Crop Production will be a 2-year program designed specifically to prepare professionals for careers in the crop production and protection industries. Students will receive training in three major subject areas: Crop Science, Plant Protection, and Business. The program will be state of the art, with many industry professionals participating. Students will be able to develop an extensive network of industry contacts through internships, industry mentorships and real case-studies.

5. Timeframe: Fall 2010

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, On-Campus and Distance Education

8. Rationale for the Program: There is a large need for well-trained crop production professionals in agricultural industry. A Professional Master's of Crop Production degree program would be a viable conduit to fulfill industry's needs. The program will contain MBA-level business, crop science and plant protection electives and will combine both academic and corporate training.

9. Current Status: Departmental Planning Stage

10. Month and Year of First Offering: Fall 2010

11. Anticipated Initial Headcount Enrollment: 5

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Master of Nutrition (Option B, Distance Education)
2. CIP Category: 30.190
3. Level of Program: Masters
4. Brief Description of Program: The program will be an option within the existing Master of Nutrition degree. A track in Feed Science will expand existing online course offerings to accommodate growing trends for vertical integration in the animal nutrition industry. NCSU has a new state-of-the-art feed mill due to a $5 million investment by the state and the feed industry. Results of research and practice with this facility can be made available around the world through this distance education initiative. Students can come to Raleigh for a short-term internship at the feed mill. As the world economy expands, a growing demand for meat and need to efficiently use agricultural byproducts is opening more employment possibilities for graduates of this program in animal feed science. The track in Human Nutrition, Food and Bioprocessing will meet the need among a segment of prospective students to become qualified to consult on healthy eating, weight management, diet planning and other disease preventing activities necessary for lowering health care costs, and to work in industries developing products and services associated with these needs. The program will include an option for a Professional Science Masters by adding a component of business courses and practical experience to nutrition and related science course work.
5. Timeframe: Submission is planned by the end of 2008 to enroll students in Fall 2009
6. Current of Planned Interaction with other Campuses: Initial contact has been made with East Carolina University, which also has a Distance Education Master of Science in Nutrition. Other Institutions involved in the NC Research Campus may collaborate with this program. Elective courses can come from those listed at UNC Online.
7. Mode or Modes of Delivery: Distance Education
8. Rationale for the Program: This program addresses several issues in UNC Tomorrow: NC State Response:
   • 4.1 Our Global Readiness: Science in Support of our Economy, Citizens, Nation, and World. Students in this program may have different physical locations that allow them to interact with other institutions, resources and service opportunities. “The new North Carolina Research Campus at Kannapolis presents a remarkable new opportunity for interinstitutional collaboration in translational research on the science of nutrition and human health.” Students at that campus, the NCSU Seafood Laboratory, and in similar situations will be seeking more on-line courses.
   • 4.2 Our Citizens and their Future: “Access to Higher Education: UNC should increase access to higher education for all North Carolinians, particularly for underserved regions, underrepresented populations, and nontraditional students...” Delivery of this program by Distance Education broadens the access to more North Carolina Citizens. “Under this initiative, the Graduate School at NC State will work with the UNC General Administration to identify areas of greatest need for advanced degrees and certificates throughout the state of North Carolina, and then work with academic programs and the university’s distance education office to increase the number of offerings and locations by tapping into appropriate modes of distance delivery.” Planning for this program has been supported by an e-Learning grant from UNC-GA.
   • 4.5 Our Health: “NC State faculty, staff and student teams are making contributions to medical research and practice across a broad range of areas including... nutrition and food safety...” Majors offered by The Nutrition Program are among those at NC State most closely tied to allied health careers. “We will focus our efforts on areas of critical health need in which we have special expertise, including ensuring a healthy food supply from both plant and animal sources, tapping into lessons from the social sciences to inform public policy decisions, and investigating technological solutions to health care problems.”
9. Current Status: Currently in Departmental Planning
10. Month and Year of First Offering: August 2009
11. Anticipated Initial Headcount Enrollment: 5-10 students
12. Anticipated Number of New FTE Faculty Required for Initiation: 1.0 FTE
1. Name of Degree Program: Master of Science in Ecological Engineering

2. CIP Category: 14.0301

3. Level of Program: Graduate Level – Masters

4. Brief Description of Program: Ecological Engineering is an emerging discipline concerned with the design, monitoring and construction of sustainable ecosystems to integrate human society with the natural environment for the benefit of both. This engineering discipline combines basic and applied science from engineering, ecology, economics, and natural sciences for the restoration and construction of aquatic and terrestrial ecosystems. The relatively new field of ecological engineering is increasing in breadth and depth as more opportunities are explored to design and use ecosystems as interfaces between technology and environment.

5. Timeframe: Fall Semester 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional with some classes via Distance Education

8. Rationale for the Program: UNC Tomorrow recommendation 4.6: Our Environment. Ecological engineers will address critical ecosystem sustainability issues that are becoming increasingly important to the future of North Carolina, the nation, and the world. The global demand for high-quality ecosystem services is increasing rapidly as more people seek sustainable supplies of food, water, air, fuel, and nature-based recreation opportunities. Demand is increasing as potential students are becoming more interested in environmental sustainability and natural resource problem-solving. Graduates of this program will be well trained and equipped to integrate biological science with engineering which is critical to achieve long-term environmental stewardship of our natural resources. Primary employers are environmental consulting firms and government agencies concerned with ecosystem management and restoration.


10. Month and Year of First Offering: Fall 2010

11. Anticipated Initial Headcount Enrollment: 12

12. Anticipated Number of New FTE Faculty Required for Initiation: 1.0
1. Name of Degree Program: Master of Science in Ecology and Evolutionary Biology

2. CIP Category: 26.1399

3. Level of Program: Graduate - Masters

4. Brief Description of Program: The proposed graduate program in Ecology and Evolutionary Biology will train basic and applied researchers in environmental biology of plants, animals, and microorganisms. This would be an interdepartmental degree program involving faculty from Plant Biology, Biology, Plant Pathology, Entomology, Crop Science, Horticulture, Soil Science, Microbiology and other departments.

5. Timeframe: 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, On-Campus

8. Rationale for the Program: NCSU has many faculty and graduate students with a research focus in ecology or evolutionary biology. The lack of a formal graduate degree program in this area has several negative impacts for the members of this community:
   - The current departmental structure does not promote the interdisciplinary structure that is needed in ecological research and education. Ecology is the study of interactions among plants, animals, microbes, and the physical environment, but the lack of an ecology program hinders communication among researchers studying each of these components.
   - NCSU is not visible to many graduate students that are pursuing graduate studies in ecology or evolution. Not having a degree program in ecology and evolutionary biology limits the number of prospective students that consider NCSU for graduate studies.
   - Most graduate students doing ecological research at NCSU would rather receive a degree in Ecology and Evolution than the degree for which they are currently enrolled. An informal survey was conducted among graduate students performing ecological or evolutionary research in the Departments of Biology and Plant Biology. With very few exceptions, students would prefer a graduate degree in Ecology and Evolutionary Biology than the degree that their home department offers. Ecologists in other departments in CALS have communicated similar preferences among many of their graduate students.

9. Current Status: Department Planning

10. Month and Year of First Offering: Fall 2010

11. Anticipated Initial Headcount Enrollment: 10 students

12. Anticipated Number of New FTE Faculty Required for Initiation: None
1. Name of Degree Program: Masters of Animal Science (Option B, Distance Education)

2. CIP Category: 01.0901

3. Level of Program: Graduate - Masters

4. Brief Description of Program: This will be an online version of our current Master of Animal Science non-thesis (Option B) graduate degree program. This program requires a total of 36 credit hours of coursework in the animal sciences and related disciplines. Students can choose to emphasize basic science, education or business perspectives within their core course and elective course choices.

5. Timeframe: Approved by faculty of Department of Animal Science in August 2008, to be submitted to the Graduate School by the end of 2008 with a planned start date of Fall 2009.

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Distance Education

8. Rationale for the Program: To our knowledge, this program will be represent the first fully-distance education based degree program in the Animal Sciences at the Master’s level in the United States. We have a number of industry clientele who have expressed interest in our program as well as a number of international students who have expressed an interest in this degree. In addition, we have had interest expressed from undergraduate students who have graduated from NCSU and are residing in other states about the availability of this degree program for pursuit of their graduate degree. This program addresses several issues in UNC Tomorrow: NC State Response including: 4.1 Our Global Readiness: Science in Support of our Economy, Citizens, Nation, and World....this program will provide advanced training in animal sciences, a basic discipline support for agriculture, a major economic contributor not only for our state but also for our nation. This will represent a degree program in which that students from both North Carolina, the US and other countries can fully participate; 4.2 Our Children and Their Future: Improving Public Education...this program improves access for students to NC State University courses; 4.4 Our Communities and Economic Transformation...increased availability for advanced training in animal agriculture and biotechnology will provide opportunities for developing a strong agricultural economy in our state; 4.5 Our Health...the availability of online coursework in the disciplines of animal science (nutrition, genetics and physiology) will expand the opportunities for training in areas critical for advancing basic agricultural and biomedical research in the state and nation.


10. Month and Year of First Offering: Fall, 2009

11. Anticipated Initial Headcount Enrollment: 5-10

12. Anticipated Number of New FTE Faculty Required for Initiation: 0.5 FTE
1. Name of Degree Program: PhD in Agricultural and Extension Education

2. CIP Category: 01.0801

3. Level of Program: Graduate - Doctorial

4. Brief Description of Program: The Department of Agricultural and Extension currently offers an Ed.D. in Agricultural and Extension Education. What is being proposed is a new track in that degree program, a Ph.D. track. An internal and external review of the AEE graduate program was conducted in the fall of 2007. One of the recommendations of the reviewers was that the Department actively pursue the establishment of a Ph.D. program. The Ph.D. track will have a greater emphasis on statistics and research than the current Ed.D. program.

5. Timeframe: The Department has approved of this initiative and will submit the request and appropriate forms to the College and University in the spring of 2009.

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, On-Campus

8. Rationale for the Program: Nationally, there is a shortage of university faculty in the field of agricultural and extension education. Those who are preparing for careers at the university level desire to have the Ph.D. degree instead of the Ed.D. The Ph.D. will focus on preparing educational leaders/researchers for the future. This initiative fits in with the UNC Tomorrow goal 4.1 Our Global Readiness. The NCSU response to the UNC Tomorrow plan states, “To be globally competitive, NC State must attract the world's best graduate students and provide them with cutting-edge education that prepares them for leadership roles in a complex global society.” This proposal supports that goal.

9. Current Status: The faculty within the AAEE department have identified the required courses in the new program and are in the process of developing three new courses to support the degree program. The official proposal is being prepared and will be submitted to the College in the spring of 2009.

10. Month and Year of First Offering: Fall 2009

11. Anticipated Initial Headcount Enrollment: 6-10 students

12. Anticipated Number of New FTE Faculty Required for Initiation: 1.0 FTE
1. Name of Degree Program: PhD in Ecology and Evolutionary Biology

2. CIP Category: 26.1399

3. Level of Program: Graduate - Doctorial

4. Brief Description of Program: The proposed graduate program in Ecology and Evolutionary Biology will train basic and applied researchers in environmental biology of plants, animals, and microorganisms. This would be an interdepartmental degree program involving faculty from Plant Biology, Biology, Plant Pathology, Entomology, Crop Science, Horticulture, Soil Science, Microbiology and other departments.

5. Timeframe: 2009

6. Current of Planned Interaction with other Campuses: None

7. Mode or Modes of Delivery: Traditional, On-Campus

8. Rationale for the Program: NCSU has many faculty and graduate students with a research focus in ecology or evolutionary biology. The lack of a formal graduate degree program in this area has several negative impacts for the members of this community:
   - The current departmental structure does not promote the interdisciplinary structure that is needed in ecological research and education. Ecology is the study of interactions among plants, animals, microbes, and the physical environment, but the lack of an ecology program hinders communication among researchers studying each of these components.
   - NCSU is not visible to many graduate students that are pursuing graduate studies in ecology or evolution. Not having a degree program in ecology and evolutionary biology limits the number of prospective students that consider NCSU for graduate studies.
   - Most graduate students doing ecological research at NCSU would rather receive a degree in Ecology and Evolution than the degree for which they are currently enrolled. An informal survey was conducted among graduate students performing ecological or evolutionary research in the Departments of Biology and Plant Biology. With very few exceptions, students would prefer a graduate degree in Ecology and Evolutionary Biology than the degree that their home department offers. Ecologists in other departments in CALS have communicated similar preferences among many of their graduate students.

9. Current Status: Department Planning

10. Month and Year of First Offering: Fall 2010

11. Anticipated Initial Headcount Enrollment: 10 students

12. Anticipated Number of New FTE Faculty Required for Initiation: None