

Annual Report for the Graduate School: 2005-06

Changes in the Service Environment

Most changes in our service environment have resulted from current or planned growth in graduate programs and enrollment. For example, the decline in international applications that followed in the wake of 9/11 seems to have ended. International applications for 05-06 stabilized at the 04-05 levels, and there has been a dramatic 25.8 % increase (4783 vs. 3801) for Fall 06. The Graduate School has contributed to this change by assuming responsibility for clearing international graduate students for admission, up through the issuance of I-20's, and by creating an International Admissions Specialist position to support this new responsibility. Since January 1, 2005, when the first of a series of organizational changes took place, the rate of international clearance versus the same period last year has improved significantly. Consequently, visa certification documents, which admitted students need in order to obtain study visas, were issued in a dramatically more timely and efficient manner.

Overall applications, admissions, enrollments, and degrees conferred have also grown. For fall 2005, 7206 prospective students applied to the Graduate School; 2836 (39.4%) were admitted. Of these, 1755 (61.9%) enrolled. Compared with fall 2004, this represents a .7% increase in applications, a 4.9% increase in numbers admitted and a .2% increase in new students enrolling. Total fall 2005 enrollment (on-campus and off-campus) was 6128 - a 2.5% increase from fall 2004. International students (1388) comprised 22.6% of the total enrollment – an increase from 1333 students and 22.3% of total enrollment from the previous fall. As compared to fall 2004, enrollment of students from underrepresented groups in fall 2005 was mixed. In fall 2005, the number of African American graduate students increased by 2.5% to 452. The number of Hispanic American students rose from 108 to 118, up 9.3% from fall 2004. The number of Native American students declined from 25 in fall 2004 to 18 in fall 2005. The enrollment of women is up from last year, from 2600 to 2712 students. U.S. citizens who are not North Carolina residents (618) made up 10.1% of fall 2005 enrollment – an increase in the total number of students from fall 2004 (up from 548) and in percentage of total enrollment (up from 9.2%). In 2005-06, the Graduate School conferred approximately 1832 graduate degrees (1465 master's and 367 doctoral), 170 more than in 2004-05. Approximately 77.5% of the graduates were U.S. citizens, of whom 8.7% were African Americans, 2.3% Hispanic Americans, and 0.4% Native Americans.

The demand for new graduate programs at NC State also continues to grow. One new doctoral program, 3 new master's programs, 4 distance education programs (three master's and one doctoral), 4 graduate certificate programs, and 2 new graduate concentrations were either approved this past year or are in the process of approval.

Finally, we have seen a growth in institutionally awarded federal grants that support our efforts to recruit and retain doctoral students in science and engineering: a GAANN award for doctoral fellowships in electronic materials, a new award from the NSF AGEP program, and an NIH/NIGMS-funded BRIDGE Program.

Because of the growth in graduate enrollment, both current and targeted, our greatest challenge is how to cover the increased costs of student recruiting and support. The budgeted NC State graduate enrollment approved by UNC-GA for Fall 2006 calls for an increase of 128 graduate students. Even the 2005-06 levels of student support cannot be maintained in 2006-07 unless the 2005-06 “one-time” allocation to the Graduate Student Support Plan is continued permanently. But to cover the cost of the 128-student increase, assuming financing patterns (% funded, % funded on grants and fellowships, % nonresident) similar to those in 2005-06, approximately \$0.75 million in additional GSSP funds will be needed. (One-third of these funds should be provided by the colleges.)

Compact Plan: Major Initiatives

(Excluding those in sections on Diversity Initiatives, Instructional Program Advances, and Fund-Raising)

Enhancements to On-line Graduate Administration and Information Resources (CPI 6): We continue to educate Directors of Graduate Programs and other graduate administrators about our on-line administrative information resources through a comprehensive communication and training program, including newsletters, automatic orientation e-mail for new administrators, and training sessions and labs. The Graduate Information Services team has developed a Graduate Program Review and Assessment Management System now being used by program directors and others responsible for graduate program review and ongoing assessment.

Increasing Funds for Graduate Fellowships (CPI 8): In 2005-06, the Graduate School administered portable fellowships from NSF, EPA, NASA, etc., as well as the following institutionally awarded fellowships: U.S. Department of Education GAANN Fellowships in Computational Science (5), Biotechnology (11), and Electronic Materials (5); and NSF IGERT traineeships in Genomic Sciences. All told, the Graduate School managed fellowships for 196 students, 70 of whom received diversity grants. In 2006, we received a \$380,000 award to support three new U.S. Department of Education Graduate Assistance in Areas of National Need (GAANN) Fellows in electronic materials. The Graduate School also provided support (program development, data, and recruiting plans) for the NSF IGERT proposal for traineeships in Climate Informatics and the pre-proposal for a multi-institutional program integrating Ecology, Agriculture, Economics, and Sociology in Management of Sustainable Production Systems and Conservation of Resources. Finally, the Graduate School received a three-year renewal (2005-2008) of the NIGMS-funded BRIDGE

Program (\$639,288) and five years of funding (2005-2010) for the NSF-funded OPT-ED Program (\$3.3 million). The goal of both programs is to promote diversity in STEM doctoral education.

Space Allocations Required to Improve Operational Efficiencies (CPI 3): Our temporary move to modules 6 and 7 of the Flex Building has led to numerous operational efficiencies, both by housing the entire staff in one location and by providing the size and quality of space needed for our diverse functions. We are concerned that these efficiencies will be lost when we move to our permanent home, which we understand will be the Alumni Memorial Building. First, the current space in Alumni is not configured to adequately support Graduate School staff and their functions. Second, disabled students and faculty will have no access to the second floor because there are no elevators. Third, if the current long-term plan for major renovations is implemented *after* our relocation in order to address HVAC and accessibility issues (interior elevator, handicapped-accessible restrooms and an additional interior staircase to the second floor), it will disrupt Graduate School operations and reduce already inadequate office space by 1000 square feet, leaving the Graduate School an additional 1,000 square feet short of the space needed for current operations, as determined by a recent Space Committee report.

We have been working with the University Architect and the private firm hired by the University (Davis Kane Architects, PA) to determine how to efficiently locate the entire Graduate School staff in the Alumni Building, providing both parties with a list of remodeling needs that must be completed prior to our move. We believe that the long-term plan for major renovations should be implemented *before* the Graduate School staff moves into the currently inadequate space and that this plan should be redone to preserve ~1000 sq. ft. of internal space by including an outside stairwell and elevator. If this revised plan for major renovations is not implemented before the move, we will experience dramatic reductions in efficiency that could impact enrollment, student and faculty satisfaction, and graduate program operations.

Improving Graduate Student Recruiting (CPI 5): The Graduate School has continued the graduate recruiting proposal award program this year, providing a total of \$42,000 in awards: \$31,000 from the Vice Chancellor for Research & Graduate Studies and \$11,000 from the Graduate School budget. Twenty-nine proposals were submitted, and all were partly or fully funded, with departments/programs providing a 1:1 funding match. The Graduate School continued to produce a recruiting CD. A self-contained recruiting document for those without Internet access, it is also a portal to program information available on the web for those with Internet access. To date, we have distributed over 10,000 copies to DGPs and at recruiting fairs. Future plans call for an update of this CD this summer. We have also attended recruiting fairs (~30), promoted our graduate programs through talks at other universities, sponsored “Visit NC State Day” in the spring, and held a summer undergraduate research symposium.

Graduate Student Support Plan (GSSP) (CPI 11): The GSSP permanent budget managed by the Graduate School in 2005-06 was \$18.9 million. We project that the entire permanent and the one-time budget commitment of \$0.5 million will be used in 2005-06. In addition to the \$18.9 million that the Graduate School manages, other university budgets will contribute approximately \$7.2 million to the plan in 2005-06. The numbers of students participating in the GSSP in Fall 2005 were as follows: 2,586 for health insurance, 2,382 for in-state tuition, and 1,249 for tuition remission.

Institutional Effectiveness (CPI 14): The Graduate School evaluates its institutional effectiveness on an ongoing basis. Current assessment tools include the following: exit surveys completed online by all students submitting a thesis or dissertation, annual surveys of NC State's GAANN Fellows to determine their level of satisfaction with the GAANN program, annual surveys and informal interviews with participants to evaluate the AGEP program, student evaluations of all Graduate School seminars, DGP and graduate secretary evaluations for their annual summer workshop, annual or biennial "How-Are-We-Doing?" surveys e-mailed to all DGPs and graduate secretaries, and semi-annual meetings with DGPs and graduate secretaries to present new initiatives and elicit feedback.

Diversity: Initiatives and Progress (CPI 5 and 7)

The Graduate School has continued its comprehensive minority recruitment/ mentoring initiative using the \$3.3 million in NSF AGEP funds awarded in March 2005. In February we hosted our 7th Visit NC State Day for 70 students from 38 colleges and universities, bringing to 500 the total number of students participating in this program since 1999-2000. In our 2005 AGEP Summer Research Experience, 27 undergraduates from other universities and 11 from NC State participated. In our complementary academic-year research experience, 49 minority NC State undergraduates have participated to date. Forty-four participants in AGEP research programs have thus far enrolled in graduate school.

We are also continuing our NSF-funded North Carolina Alliance to Create Opportunity Through Education (OPT-ED), a collaborative effort among all North Carolina's NSF-sponsored diversity programs (middle school through graduate school) to increase the number of minority Ph.D.s in science and engineering. In September 2005, we held our fourth OPT-ED Alliance Day, which featured a poster session, oral research presentations, student/faculty panels, and breakout workshops for over 525 participants. We are also the lead institution on an NIH/NIGMS-funded Doctoral Bridge Program to increase the number of minority researchers in the biomedical and life sciences. To date, 22 BRIDGE students have completed an M.S. degree at one of our partner institutions (Fayetteville State, NC A& T, and NC Central), and eight of these have entered Ph.D. programs at NC State and 2 at Wake Forest. Of these students, three have completed the Ph.D., and four more should complete within the next year.

This year our staff attended 26 recruiting fairs for minority and first-generation college students. With \$38,500 in diversity funds we supplemented departmental and college awards to recruit minority students and used \$215,913 for retention supplements. The average award was ~\$2500, and 109 students received awards this year.

Instructional Program Advances

Program Evaluation – Improving Graduate Education (CPI 1): The Graduate School successfully implemented its revised eight-year program review process, expanding the number of programs to be reviewed each year and developing more effective review procedures. Nine programs were reviewed in 2005/06: Architecture, Chemistry, Civil Engineering, Counselor Education, Industrial Engineering, Physiology, Psychology, Wood and Paper Science, and Zoology. Concurrent with its formal reviews, the Graduate School continued to advance outcomes-based assessment of all graduate programs. From the original five pilot programs, 81 programs now have completed their assessment plans, and six programs have nearly completed theirs. Nineteen programs have yet to post their plans, but we continue to work with DGPs in these programs. In addition, the Graduate School is helping a group of pilot programs, one from each college, to gather, analyze, and report their assessment data. We will use the results of these pilots to train DGPs in completing biennial outcomes-assessment reports. Toward that end, we have continued to upgrade the infrastructure (databases, resource documents, website, reporting mechanisms, etc.) necessary to manage this new process.

Course Actions: The Administrative Board of the Graduate School approved a total of 112 graduate course actions during 2005-06: 44 new and 51 revised courses, as well as 17 course drops.

International Teaching Assistants (ITAs): We screened 148 ITAs in 2005-06 for oral English proficiency.

NRC Assessment: Optimizing NC State's Graduate Programs' Rankings (CPI 4): The Graduate School is coordinating NC State's participation in the NRC study, working closely with the Vice Chancellor for Research and Graduate Studies, the Provost, college and departmental administrators, faculty, and staff in developing our response. Duane Larick is the institutional coordinator. We have established working groups in the social and behavioral sciences (principally economics), life sciences, and physical sciences (including mathematics and engineering) to discuss the proposed taxonomy and decide in which fields NC State will compete. The goal is to present graduate education at NC State so as to optimize the assessment (rankings) for the university as a whole. When these discussions are completed, we estimate that NC State will compete in 30-35 of the 57 fields identified by the NRC Panel on Taxonomy and Interdisciplinarity. Once these fields are chosen, we will identify faculty within each field. Individual faculty may be associated with more than one field, in proportion to the time they devote to each.

Professional Development and Mentoring of Graduate Students and Faculty (CPI 9): The Graduate School continued and expanded professional development programs for graduate students and faculty in 2005-06, e.g., the first annual graduate student research symposium, in partnership with the UGSA (presentations by 72 graduate students from 9 colleges and 41 graduate programs); Preparing the Professoriate (17 fellows from 13 different departments); fourth annual undergraduate summer research symposium, assisted by Undergraduate Academic Programs (presentations by 125 students from 31 universities, 16 states, and Puerto Rico); NSF-funded statewide mentoring workshop for current and future faculty, in partnership with UNC-CH and NC A&T (78 graduate students and faculty from 11 NC institutions); "OPT-ED Alliance Day," with UNC-CH and NC A&T (525 middle-school through Ph.D. students from 26 institutions); and four summer and six academic-year seminars on preparing for and succeeding in graduate school.

Facilitating the Development of New Graduate Degree Programs (CPI 10): One new doctoral program, three new master's programs, four distance education programs (three master's and one doctoral), four graduate certificate programs, and two new concentrations were either approved this past year or are in the process of approval. These include a request to establish the Ph.D. in Fisheries and Wildlife Science and final approval for the joint NC State and UNCG master's degree in Human Development and Family Planning, the Master of Social Work degree, and the combined DVM/MBA program.

Council of Graduate Schools (CGS) Retention Study (CPI 12): The University of Georgia, the University of Florida, and North Carolina State University were awarded a grant to develop a systematic intervention to encourage completion of doctoral degrees in selected science, engineering, math, social sciences, and humanities departments. This project was funded through CGS with support from Pfizer Inc. and the Ford Foundation. Currently, information on admission, orientation and integration practices for doctoral students is being collected and analyzed. Also, a database system for monitoring doctoral completion in graduate departments at the three institutions has been created. At NC State, retention data calculated using the procedures developed for this study have been added to the InfoWeb database and are currently evaluated during graduate program reviews. Based on findings from this study, "best practices" for doctoral completion are being identified, with the ultimate goal of improving retention of doctoral students.

Achievements

As noted above, the Graduate School was the co-recipient of a CGS grant to study doctoral completion rates and is also taking the lead on NC State's participation in the NRC assessment of doctoral programs. Individual contributions to the graduate community include the following:

Dean Robert Sowell gave presentations at three national and regional meetings: “Assessment and Review of Graduate Programs,” Council of Graduate Schools (CGS) New Dean’s Institute, Santa Fe, NM, July 9, 2005; “Graduate Enrollment Planning at N. C. State University,” CGS Annual Meeting (Pre-meeting Workshop), Palm Springs, CA, December 7, 2005; and “Fifteen Years of Building Bridges to Internal Constituents,” Conference of Southern Graduate Schools (CSGS) Annual Meeting, Little Rock, AR, February 25, 2006.

Associate Dean Rebeca Rufty serves as advisor to the University Graduate Student Association. She also gave a talk on “Future Faculty Programs: Models for Success and Future Directions” at the CGS Summer Workshops in Santa Fe, NM in July, 2005. She was awarded a U.S. Patent Serial No. 10/247,857 for Tobacco Cultivar NC 2000.

Associate Dean Duane Larick gave a presentation entitled “Assessment and Review of Graduate Programs” at the CGS Annual Meeting, Palm Springs, CA, December 7, 2005. He has also been very involved with his professional organization, the Institute of Food Technologists, and currently serves as outgoing chair of the Career Guidance Committee and Chair of the Management Committee on Lifelong Learning & Careers - Institute of Food Technologists.

Associate Dean Michael Carter gave two presentations: “Assessment and Review of Graduate Programs” at the Midwestern Association of Graduate Studies, Chicago, April 19, 2006, and “Assessment and Review of Graduate Programs—Doctoral” (with Duane Larick) at the CGS annual meeting, December 7, 2005.

Assistant Dean Rick Liston was appointed as the Student Information System implementation project manager.

Assistant Dean David Shafer spoke at the U.S. Department of Education Technical Assistance Workshop in August 2005 on program evaluation, presented a talk on “Myths and Realities about Graduate School Funding” at the NC Louis Stokes Alliance for Minority Participation (NC LSAMP) conference, March 20, 2006, and moderated a panel on “Retention and Progress to the STEM Ph.D.” at the AGEP Evaluation Capacity Workshop in San Juan, Puerto Rico, January 2006. He was elected to a second term as President of the NC State Chapter of Phi Kappa Phi for 2006-07.

Margaret King, Consultant for Graduate Program Reviews, gave a workshop on “The Ethics of Mentoring Graduate Students,” RCR Forum, Duke, January 31, 2006; a plenary talk on “Mentoring Student Research,” Appalachian State faculty workshop, February 3, 2006; and a workshop session on “Ethics of Mentoring Graduate Students,” NC LSAMP conference, March 20, 2006.

Staff Changes

SPA Position Description and Salary Alignments (CPI 2): Graduate School operations related to student education and funding, programs and faculty, and each of our COMPACT initiatives depend heavily on the Graduate School’s staff in the Admissions and Records, Graduate Appointments, and Graduate Student Support Plan areas. Efforts

to increase operational efficiency in these areas have greatly improved the services for all our clients. In this process, the functions performed by the SPA staff have changed dramatically, bringing with them a higher level of responsibility. As a result, the Graduate School is currently revising the position descriptions for these staff members and is providing salary adjustments for critical personnel, as recommended and authorized by Human Resources.

Personnel Changes: To recognize areas that had been informally under the direction of Rick Liston, his title was changed from Director of Workflow and Information Systems to Assistant Dean for Operations and Fiscal Affairs. Erica Braman has filled the vacant position of Thesis Editor and Residency Officer. There are currently three vacant positions in the Graduate School: the Administrative Assistant to the Dean, the Administrative Assistant to the Associate Dean, and a Computing Consultant I position. Someone has been offered the position of Administrative Assistant to the Dean, and we anticipate that this person will accept the offer.

Recommendations and Concerns for the Future

Enrollment planning and growth: As discussed in the opening section of this report, in order to maintain graduate enrollment at the 2005-06 levels in 2006-07 and beyond, the one-time allocations committed for 2005-06 must be continued. In addition, if NC State is to increase graduate enrollment by 128 students in Fall 2006, approximately \$0.75 million more is needed to provide GSSP benefits necessary to support this enrollment increase.

Financial support for continued operation of the new graduate program review process: In 2002, a task force determined that there were inadequate resources for proper implementation of the revised graduate program review process. They recommended that a Director of Graduate Program Review be appointed. The Graduate School has requested that the Vice Chancellor for Research and Graduate Studies and Provost fund this new position and ultimately provide a total of \$175,000 in permanent resources to support graduate program evaluation.

Additional personnel needs: We need additional staff to direct and support the significantly expanded graduate program review function and increased graduate student recruitment efforts.

Adequate space for effective Graduate School operations: The Graduate School needs adequate and functional space to fulfill its current responsibilities and to respond to anticipated growth in graduate student numbers and programs. Although we have demonstrated our ability to handle growth through improved efficiency, we will soon need additional staff to provide our university-wide services. It is therefore crucial that before the Graduate School moves to the Alumni Memorial Building, funds be found to complete the long-term renovations described in the June 19, 2006 Alumni Memorial Building Study by Davis Kane, Arch.