UNC REPORT ON EXPANDING ACCESS TO HIGHER EDUCATION THROUGH STATE-FUNDED DISTANCE EDUCATION PROGRAMS

Submitted in response to North Carolina Session Laws 1998, chapter 212, section 11.7 of the North Carolina General Assembly

May 1, 2002

Board of Governors
The University of North Carolina

Preface

Students' comments on their UNC distance education experience:

First of all, if it were not for this off campus program, I would not be a teacher right now. I could never have obtained my education because of family and work obligations. It was truly a blessing for me. Second, the entire experience of the cohort provided me with the joy of acquiring new friendships that I would not trade for anything... and now three of us teach at the same school.... Finally, I feel that the instructors of these off campus courses were terrific. They went above and beyond to help us in any way that they could... They really made me feel that I could accomplish anything if I put my mind to it. The entire experience changed my life and I am a better person for it. [Fifth grade teacher, Forest City, NC, who obtained her teaching degree from Appalachian State University]

I hope to graduate as an online degree recipient from NCA&T as soon as summer '03... The value of the online education opportunity has been crucial in my return to higher education, as it allows me to maintain full time enrollment and manage my work life and home life also.... There are rich opportunities for interaction with students and faculty in online learning.... The discussions are carried out in online sessions, which require responsiveness in thought and concise writing skill. Use of online reference sources expands the educational experience to make it one that engages the student with the wide world of commerce as well as academia. The faculty and staff of the NCA&T Occupational Safety & Health program and the Center for Distance Learning have been actively helping me progress through the academic requirements, and I am very satisfied with the program... [Student in NCA&T online BS in Occupational Safety & Health program]

In my position as nursing supervisor at a local hospital working 12-hour shifts, I would not have been able to attain the BSN if the Surry RN-BSN option had not been available. It was close to my home, it offered flexibility in scheduling of classes, and the faculty was very dedicated to adult learning principles.... The quality of the program was excellent and I learned how to be a more confident professional, a more effective leader and educator to my staff, and my critical thinking skills were increased.... [Nursing student in Surry County enrolled in Winston-Salem State University distance program]

(More comments are presented in Attachment 1 of this report.)

UNC Report on Expanding Access to Higher Education through State-Funded Distance Education Programs

Table of Contents

Introduction

This report provides the North Carolina General Assembly with an update on progress achieved by University of North Carolina distance education programs in response to enrollment funding first authorized in Fiscal Year 1999 in the following legislation:

> *North Carolina Session Laws 1998, chapter 212, section 11.7*
> *(UNC Distance Education)*
>
> *This act provides funding to The University of North Carolina Board of Governors for degree-related courses provided away from the campus sites of the constituent institutions of The University of North Carolina. The intent of this commitment is to provide expanded opportunities for higher education to more North Carolina residents, including nontraditional students, and to increase the number of North Carolina residents who earn post-secondary degrees.*
>
> *These funds shall be used for the provision of off-campus higher education programs, including the costs for the development or adaptation of programs for this purpose, and the funds may be used for the costs of providing space and services at the off-campus sites....*
>
> *The Board of Governors shall track these funds separately in order to provide data on the costs of providing these programs, including the different costs for various methods of delivery of educational programs. The Board of Governors shall provide for evaluation of these off-campus programs, including comparisons to the costs and quality of on-campus delivery of similar programs, as well as the impact on access to higher education and the educational attainment levels of North Carolina residents. The Board shall provide a preliminary report to the General Assembly by May 1, 2000, and subsequent evaluations, including recommendations for changes, shall be made at least biennially to the Joint Legislative Education Oversight Committee.*

In response to the distance education enrollment funding made possible by the above legislation, this report will document the many ways that UNC constituent institutions have expanded access to higher education in North Carolina and have addressed important economic and workforce needs of the state. Careful needs assessments are conducted and reviewed before any off-campus degree program is authorized, and UNC constituent institutions have been active in reaching out to their regions to identify these needs. UNC distance education programs have been developed to serve the needs of a wide array of North Carolina's citizens, including:

⇒ the school teacher who wishes to obtain a master's degree that conforms to the state's advanced competencies requirements;

⇒ the person who wants to become a teacher but lacks the appropriate undergraduate or certification courses;

⇒ the registered nurse who wishes to advance to a position requiring a baccalaureate (or master's) degree;

⇒ the community college student who hopes to earn a baccalaureate degree in his/her home community;

⇒ the industry manager who wants to obtain a master's degree in business, industrial technology, project management, engineering, textile chemistry, computer science, or some other professional area;

⇒ the health department director or hospital administrator who wishes to upgrade his/her skills with a master's degree in public health or health administration; and

⇒ the community college faculty member who must obtain the master's or doctoral degree in response to new accreditation requirements.

Executive Summary

1. State funding for UNC off-campus (distance) education degree-credit instruction is achieving the intended legislative goal of expanding access to higher education opportunities for North Carolinians who otherwise would be unable to obtain an undergraduate degree, graduate degree, or licensure in a teaching specialty. This expanded availability of distance education programs is also helping to alleviate some of the demand for on-campus enrollment growth. High quality degree programs are being developed and offered throughout the state in subject areas that are responsive to workforce needs of North Carolina and relevant to individuals who want to pursue higher education degrees in their home communities. Data supporting this conclusion include the following:

- The unduplicated number of individuals enrolled in UNC distance education programs increased by 70 percent from FY 1999 to FY 2001—from 6,929 individuals to 11,785.
- Distance education course offerings increased 157 percent from fall 1998 (the first year distance education enrollment funding was provided) to fall 2001, from 412 course sections to 1,060.
- From FY 1999 to FY 2001, student credit hour (SCH) production in distance education increased by 99 percent, from 38,998 to 77,733 SCHs. It is estimated that approximately 100,000 SCHs will be taught in FY 2002.
- UNC constituent institutions offer 131 site-based degree programs in 48 North Carolina counties, including 55 degree programs taught at 27 North Carolina Community College campus locations. Other distance education sites include public

school settings, Area Health Education Centers and other health care settings, UNC graduate centers, and North Carolina military bases.

- UNC online degree programs are rapidly increasing, growing from 6 online programs in spring 2000 to 30 online degree programs in spring 2002.
- A greater proportion of distance education students are female as compared to on-campus enrollments, providing some evidence that distance education programs may be reaching place-bound or working women who are unable to travel to a UNC campus.
- Students who are 26 and older comprise 78.5 percent of distance education enrollments as compared to only 22.4 percent of regular term (on campus) enrollments. Again, this indicates that UNC distance education programs are reaching non-traditional higher education audiences who otherwise would not have access to these programs.
- The UNC Office of the President (UNC-OP) has undertaken an e-Learning Initiative intended to increase the number of online "anytime, anywhere" courses and degree programs that can be accessed from any county in the state. Funding grants have supported faculty development in information technology and distance education as well as development of collaborative online courses and degree programs.
- In making these grants, UNC-OP has emphasized development of distance degree programs that are responsive to critical need areas of the state: teacher education, health professions education, and information technology. Approximately two-thirds of UNC distance education SCHs were produced in these degree areas in FY 2001.
- UNC constituent institutions ensure that they provide the same quality of instruction to distance education students as to on-campus students through a variety of assessment and evaluation procedures. The UNC-OP assists in this by coordinating and analyzing surveys of students enrolled in comparable undergraduate and graduate campus and distance education programs.

2. Preliminary findings on off-campus course costs indicate that they are generally greater than on-campus costs for comparable classes. These findings should be viewed with some caution because North Carolina is one of the first states to attempt such a comprehensive analysis, and little national data are available for comparison. Costs of off-campus courses that rely heavily on information technology (*e.g.*, web-based or two-way interactive video) are greater than the costs of either on-campus or off-campus face-to-face instruction, although some of these costs reflect "up front" expenses related to initial development. To the extent that development of on-line courses enables UNC institutions to collaborate in offering a diverse array of courses with little duplication, this up-front investment may prove to be cost effective in the long run. Benefits related to these costs are also achieved by providing the only means some North Carolinians may have to increase their earnings and improve their lives through higher education.

- Appropriations for UNC distance education were expended in the following manner: 58 percent for salaries and contracted support and development services, 14 percent for information technology purchases or licenses, and 26 percent for libraries,

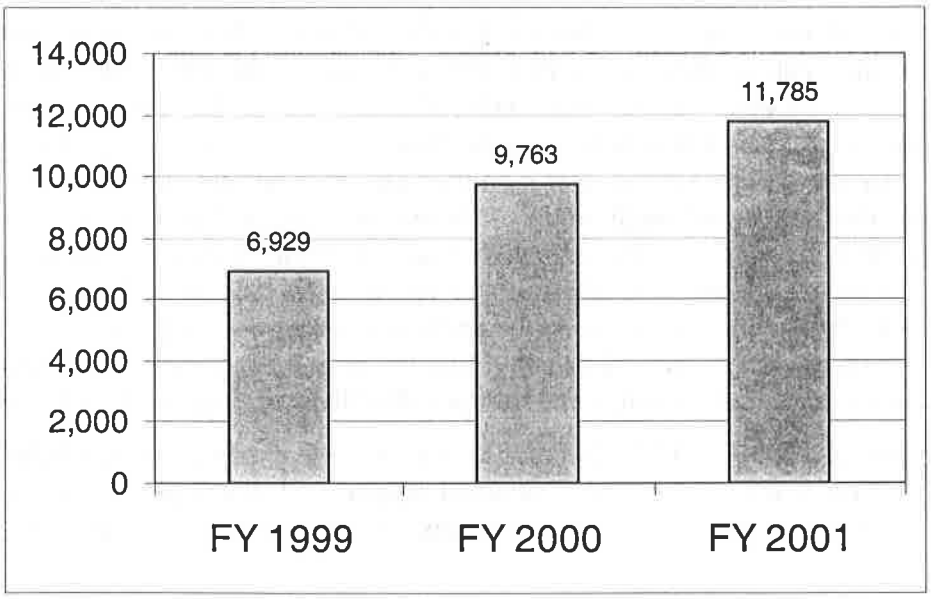
instructional supplies, and faculty travel. Two percent of the funding was returned to the state as mandated reversions.

- On average, off-campus courses were found to cost about 46 percent more than comparable on-campus courses ($27,952 compared to $19,109). Primarily, this can be attributed to the fact that a larger percentage of the off-campus courses were heavily technology-mediated and incurred higher development and technology costs.
- Average program costs both for on-campus and distance courses were found to be about five percent less than average costs measured in the cost study conducted for the previous 2000 distance education report. This may be due to increased experience with the efficient use of information technology.
- On average, traditional "face to face" off-campus instruction was the least expensive method of off-campus delivery, costing about as much as the average on-campus course. Internet and web-based instruction was approximately 52 percent more expensive than traditional instruction, and two-way interactive video exceeded traditional instructional costs by about 75 percent. Differences in costs were mainly attributable to the instructional delivery mode employed. Course development for technology-mediated courses was a large component of this cost differential.

Increasing Access to Higher Education

In response to the enrollment funding provided by the General Assembly for UNC distance education programs, the number of students enrolled in these programs has increased significantly in the last three years. Unduplicated headcount enrollments increased by 70 percent from Fiscal Year 1999 to Fiscal Year 2001—from 6,929 individuals to 11,785. A comparable increase is expected for Fiscal Year 2002.

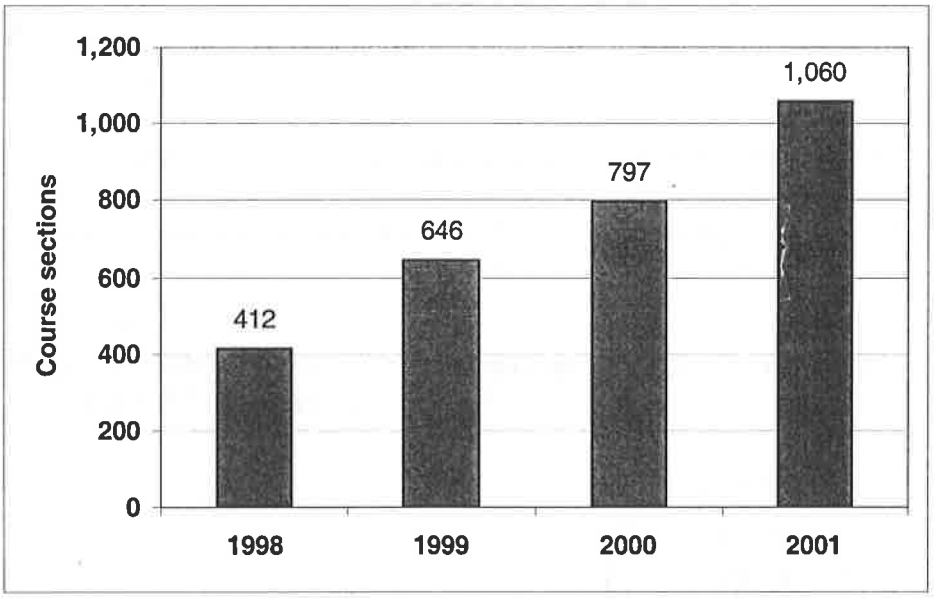
Figure 1. Growth in Unduplicated Headcount Enrollment in UNC Distance Education Programs, FY 1999 – FY 2001



[Note: Throughout this report, data generally will be presented for distance education instruction funded by the UNC enrollment funding model because this is the focus of the legislation cited at the beginning of this report. UNC distance programs also enroll a number of individuals (2,824 individuals in FY 2001) for whom UNC does not receive distance education enrollment funding. Typically these are either non-NC residents receiving distance instruction out of state, or they are students enrolled in specially funded contract or customized distance programs that do not receive enrollment funding.]

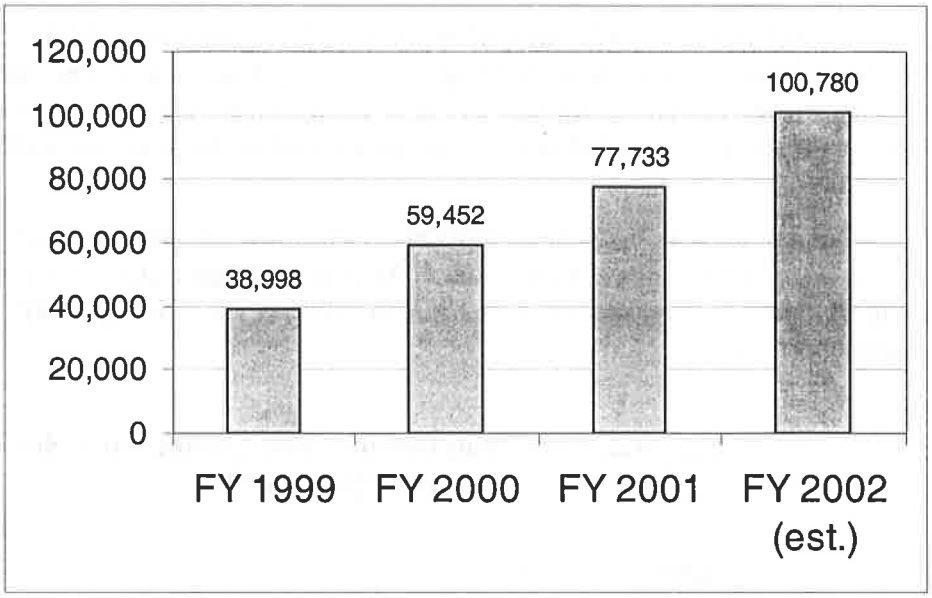
Annual growth in distance education can also be measured by the number of distance courses offered each semester. As Figure 2 illustrates, fall semester distance education courses increased from 412 in fall 1998 to 1,060 in fall 2001, an increase of 157 percent.

Figure 2. Growth in Distance Education Course Sections: Fall 1998—Fall 2001



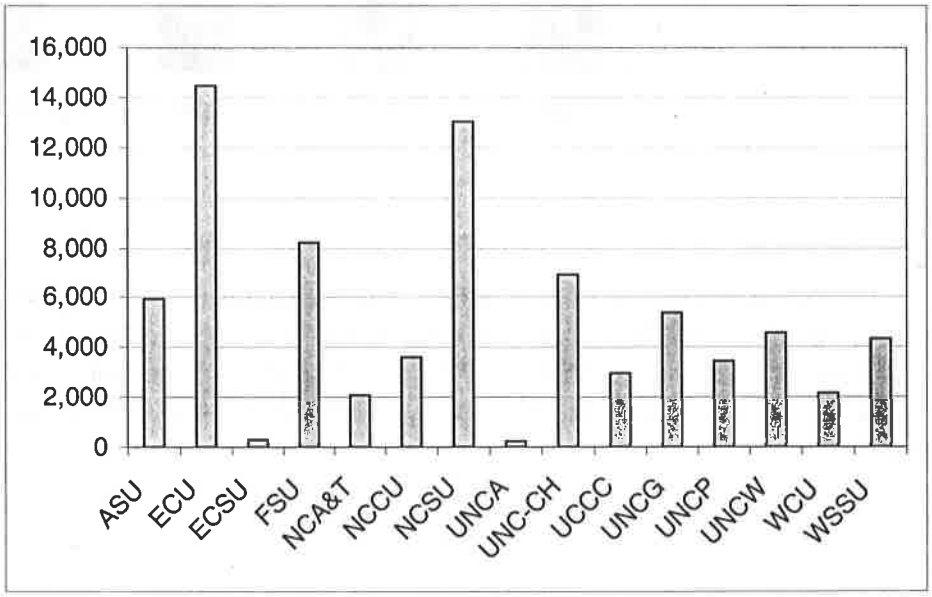
Another indication of growth in UNC distance education activity is the increase in student credit hours (SCHs) taught in each fiscal year. These SCHs increased by 99 percent from FY 1999 to FY 2001 (38,998 to 77,733 SCHs), and it is estimated that total UNC distance education SCH productivity will exceed 100,000 SCHs in FY 2002 (Figure 3).

Figure 3. Total UNC Funding Model Distance Education Student Credit Hours: FY 1999—FY 2002



Production of these distance education SCHs varies by UNC constituent institution, with some institutions more active in offering distance education programs than others. SCH production by UNC constituent institution for Fiscal Year 2001 is presented in Figure 4.

Figure 4. Funding Model Distance Education Student Credit Hours (SCHs) Produced by UNC Institutions: FY 2001



As of spring 2002, 131 UNC degree programs are offered at sites in 48 North Carolina counties. With this level of outreach, citizens of other nearby or adjacent counties are brought within driving distance of UNC degree programs. Figure 5 shows the presence of these programs throughout the state.

Figure 5. UNC Degree Programs by County Location, Spring 2002

Of the 131 site-based distance programs noted above, 55 degree programs are offered at 27 North Carolina Community College System (NCCCS) campus sites. These programs enable community college graduates to complete their baccalaureate degrees in their home communities and enable community college faculty to obtain needed graduate degrees. Other site-based UNC distance education programs are located throughout the state at public school locations, Area Health Education Centers (AHEC) and other health care sites, UNC graduate centers, and North Carolina military bases.

Perhaps the greatest progress in the last two years in expanding access to higher education to North Carolina residents is represented by the rapidly increasing number of distance education programs that are available online via the Internet and World Wide Web (WWW). In spring 2000, six UNC distance programs were on-line. By spring 2002, 30 UNC distance programs existed with instruction available online (except for activities such as clinical training or student teaching).

Descriptive Information on UNC Distance Education Students

Analysis of the characteristics of UNC distance education students confirms that many non-traditional higher education students are enrolling in distance education programs. In fall 2001, students in funding model supported courses had the following characteristics:

Gender: Due to work and family obligations, many women are likely to be unable to relocate to a UNC campus. UNC distance education programs are achieving their

intended effect of reaching these non-traditional higher education students in their home communities. Women are enrolling in UNC distance education programs at a higher rate than for on-campus programs. Table 1 shows the gender distribution of UNC fall 2001 enrollments for students only enrolled in on-campus (regular term) courses, students only enrolled in distance education (DE) classes, and students in enrolled in both regular term and distance classes. (Students enrolled both in regular term and distance courses represented approximately 21.6 percent of all distance education students in fall 2001.)

Table 1. Fall 2001 UNC Enrollment by Gender

	Only Reg. Term	Only in DE	Reg. Term & DE
▪ Female:	55.7 percent	67.6 percent	68.7 percent
▪ Male:	44.3 percent	32.4 percent	31.3 percent

Race/ethnicity: It is important for UNC distance education to make higher education opportunities available for all racial and ethnic groups of North Carolina. Table 2 shows the racial and ethnic distribution of fall 2001 UNC enrollments for students enrolled only in regular term courses, only in distance education courses, and in both regular term and distance courses. For African American and Hispanic students, it is interesting to note that although the percentages of these students taking only distance education courses is lower than the percentages of these students enrolled only in regular term courses, the percentages of these students enrolled *both* in regular term and distance courses is substantially higher than their percentages for only regular term.

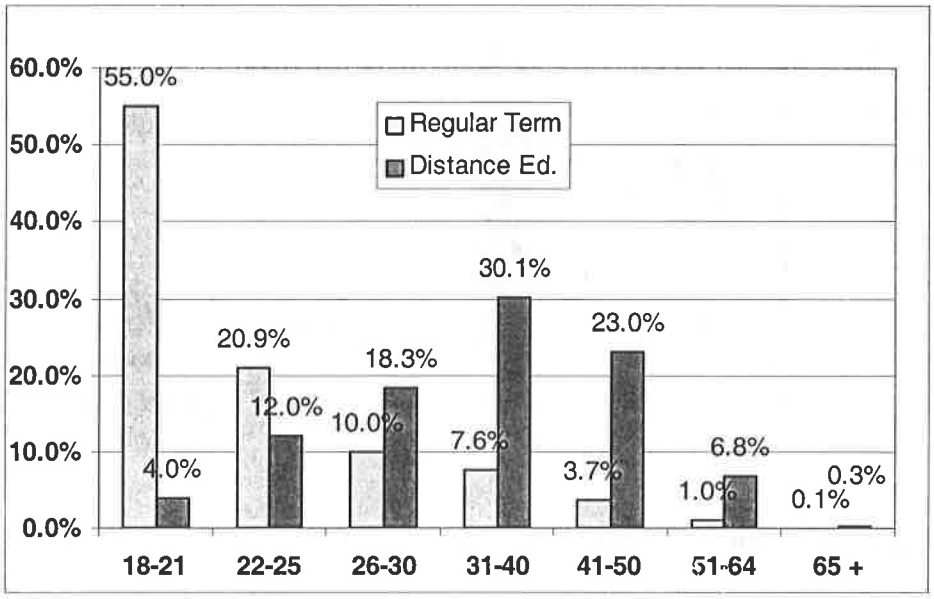
Table 2. Fall 2001 UNC Enrollment by Race/Ethnicity

	Only Reg. Term	Only in DE	Reg. Term & DE
▪ African American	21.1 percent	14.5 percent	24.8 percent
▪ American Indian:	1.1 percent	1.0 percent	1.0 percent
▪ Asian:	3.0 percent	2.1 percent	2.3 percent
▪ Hispanic:	1.5 percent	1.6 percent	2.3 percent
▪ White:	69.9 percent	76.5 percent	65.0 percent

Age: Another important goal for UNC distance education is to reach older place-bound and working adults in North Carolina. While the majority (55 percent) of regular term students are in the traditional college age range of 18-21, Figure 6 illustrates that UNC distance education programs are succeeding in reaching the non-traditional college-age population. Students who are 26 and older account for 78.5 percent of distance education

enrollments compared to only 22.4 percent of regular term enrollments. US Census Bureau projections indicate that the older population in North Carolina will grow rapidly over the next decade; thus this trend regarding older distance education students is likely to continue.

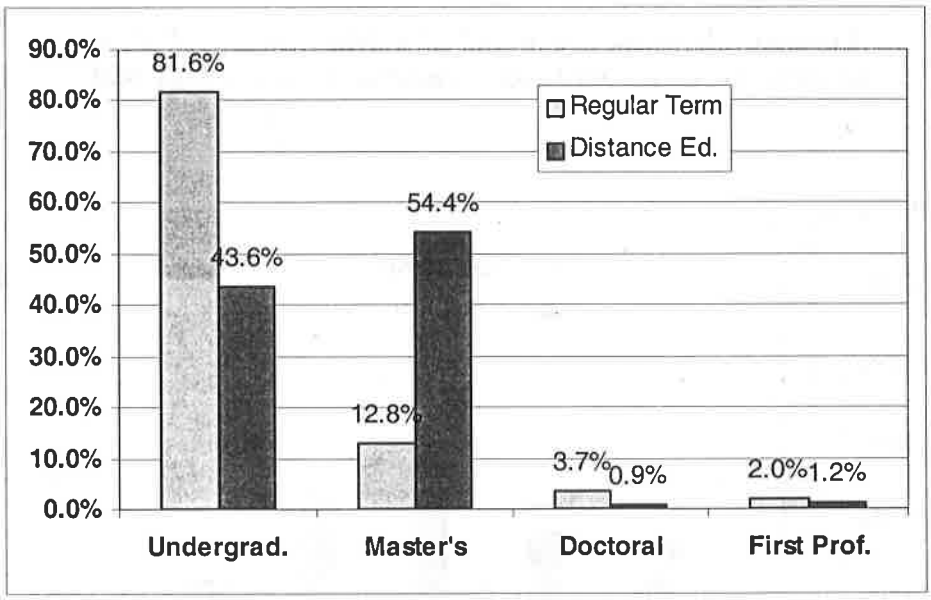
Figure 6. Age Distribution of UNC Students Enrolled in Regular Term and Distance Education Courses, Fall 2001



Residency: As with regular term (on campus) degree programs, students enrolled in state-funded distance education programs are largely North Carolina residents. In fall 2001, 85.5 percent of UNC distance education students were North Carolina residents compared to 85.2 percent of the UNC regular term students. (Student credit hours produced by non-North Carolina residents taking UNC courses out of state are not counted for state enrollment funding. Non-North Carolina resident instruction taking place inside North Carolina does qualify for enrollment funding, but the non-residents must pay the regular out-of-state tuition that would be charged on campus.)

Degree level of student: Because many UNC distance education programs are designed to serve the higher education needs of working adults, many programs are offered at the graduate level for schoolteachers, nurses, and others who wish to pursue advanced degrees without leaving their home community. Thus, as Figure 7 illustrates, a majority of UNC distance education students are enrolled in master's degree programs. (UNC distance programs offer only the final two years of baccalaureate degree programs off campus—one reason for the lower percentage of distance undergraduate students.) The UNC Office of the President has provided incentive grants to encourage development of a number of baccalaureate degree programs over the next two years in critical need areas such as teacher education, health professions, and technology.

Figure 7. Distribution of UNC Regular Term and Distance Education Students by Program Level, Fall 2001



Methods of Instructional Delivery

UNC off-campus degree programs are increasingly incorporating technological modes of instructional delivery, and almost all use some form of e-mail or web-based sites for information and communication. A majority of courses still conduct some instruction in the traditional or "face to face" manner, with faculty instructors traveling to the instructional site. A number of factors influence the instructional delivery mode used by a particular program. In the past, UNC campuses have often responded to requests for off-campus programs from specific agencies (*e.g.*, a community college, school district, or AHEC), and traditional face-to-face instruction has been offered at those sites. Much of this instruction has made a full or partial transition to two-way interactive video as additional "information highway classrooms" have been built at locations throughout the state.

As Internet technology becomes increasingly available and affordable, many online courses have been developed. As noted above, by spring 2002, UNC constituent institutions have developed approximately 30 on-line degree programs. Although "start up" costs for developing such programs may be substantial, the on-line delivery of instruction enables programs to avoid costly site rental fees and allows access to instruction and course materials at a time and location most convenient for the student. Further, such on-line availability of courses enables UNC campuses to share courses, and a number of distance education degree consortia are being developed among UNC institutions to take advantage of this opportunity.

UNC Office of the President e-Learning Initiatives

Recognizing the potential of information technology to help increase access to higher education by North Carolinians, the Office of the President (UNC-OP) has developed an "e-Learning Strategy," investing in external evaluation and assessment to help guide this process. This e-Learning Strategy was one outcome of the UNC Information Technology initiative, which also resulted in: (1) funding for and installation of the physical infrastructure requirements for each UNC campus to meet a baseline of functionality; (2) funding for the development of centers for teaching and learning with technology and for staff support activities on each campus; and, (3) funding for development of several multi-campus collaborative initiatives.

UNC-OP has provided a number of grants to UNC constituent institutions in recent years to promote development of faculty educational technology expertise and creation of online (or "e-learning") degree programs. In FY 2000, UNC-OP provided 25 funding grants in response to proposals from UNC institutions for faculty training activities in online course development. In FY 2001, UNC-OP provided 26 grants to support collaboration among UNC institutions in development of online courses and programs. The outcomes of these grants included:

- Online BSN nursing courses (NCCU and NCA&T)
- Online tutorials to assist students prepare for the teacher education PRAXIS I and II exams (WSSU and NCA&T)
- A "virtual lab" to support online courses at ECU and NCCU
- Two online epidemiology courses to be used in health education programs at FSU, NCCU, and UNCG
- Online courses developed for master's programs in several areas of teacher education (UNC Chapel Hill, ASU, ECU)
- Online modules for Secondary Science teacher education courses and English as a Second Language courses (UNCG and UNC-TV)
- Online Special Education certification courses (WCU and NCCU)
- An online Nutrition course that can be used by participating members of the UNC Gerontology Consortium (UNC Chapel Hill, UNC Institute of Nutrition, UNC Institute of Aging)
- Server and software licenses to enable the UNC Chapel Hill School of Public Health to provide "24 x 7" technical support for several distance programs
- Online courses for a Master of Health Sciences degree (WCU and Mountain AHEC)
- Online courses for Birth-Kindergarten licensure programs (UNCC, UNCG, ASU, ECU)
- Online courses for a collaborative BSN program (UNCC and UNCW)
- Online teacher licensure courses in several areas (FSU and UNCP)
- Online Certified Rehabilitation Counselor program (UNC Chapel Hill and ECU)
- Online course management system (ASU)

- Online teacher education courses (ECSU)
- Planning for an educational technology consortium (ASU, ECU, NCA&AT, UNCC, UNCW, and WCU)
- Online courses for agricultural education courses (NCA&T and NCSU)
- Planning for an online MS degree in Photonics and Microelectronics (NCA&T and NCSU)
- Planning for online degree programs in Computer Science & Engineering (NCA&T, NCSU, UNCA, and UNCW)
- Planning for an online MS in Biomedical Engineering program (UNC Chapel Hill and NCSU)
- Online courses in Archeology, German Literature, and Physics (UNCA, UNC Chapel Hill, and WCU)

Based on a state-wide needs analysis funded by the UNC Office of the President, three academic areas were selected for emphasis in the development of online degree programs: teacher education, health professions education, and information technology. Based on these priorities, in FY 2002 UNC-OP made grants to UNC institutions to complete planning and development of online degree programs and related licensure and certification courses in the following areas:

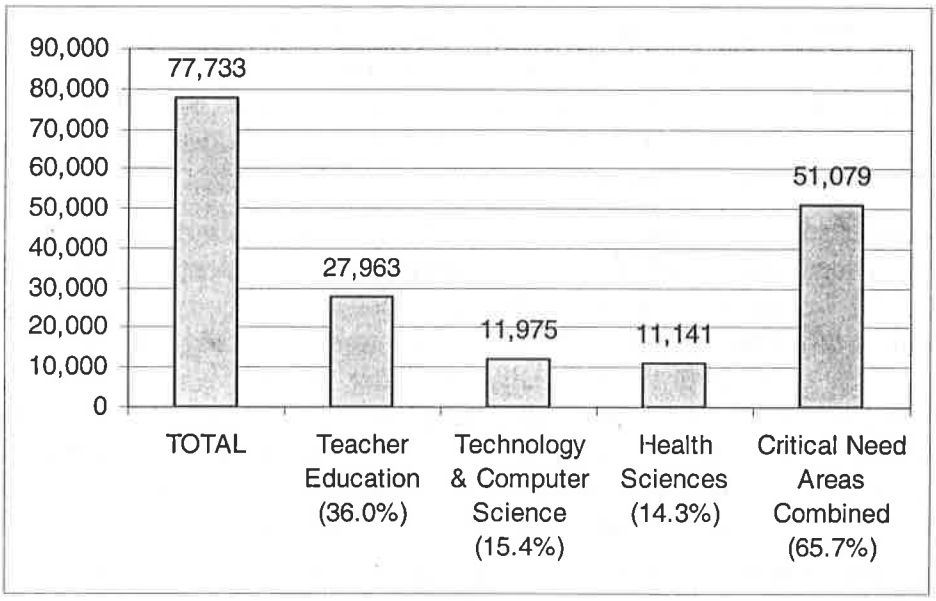
- **ECU**: BS in Elementary Education, BS in Middle Grades Education, BS in Birth-Kindergarten Education, RN to BSN Nursing, BSBE in Information Technology, and BS in Industrial Technology
- **ECSU**: BS in Teacher Education
- **FSU**: BS in Elementary Education
- **NCA&T**: BS in Agricultural Teacher Education, MS in Technology Education, BS in Business Education, BS in Occupational Safety and Health, and Licensure in Elementary and Special Education
- **NCCU**: BS in Information Sciences, BS in Early Childhood Education
- **NCSU**: Licensure in Science Education and English as a Second Language, BS in Agricultural Education, and three online Engineering courses
- **UNCA**: Development of labs for information technology courses
- **UNC Chapel Hill**: Licensure in School Library Media, Licensure in Middle Grades Education, and a data skills module for online Master of Public Health program
- **UNCC**: Licensure in Middle and Secondary Education
- **UNCG**: Software license for Blackboard, Enterprise Edition
- **UNCP**: Preschool licensure program
- **UNCW**: RN to BSN online program (with UNCC)
- **WCU**: BSN in Nursing and BS in Special Education
- **WSSU**: Licensure for lateral entry in Special Education.

UNC-OP made additional grants to UNCG to coordinate planning for distance degree programs to produce nursing faculty for North Carolina community college and universities and to ECU in investigate a collaborative tool for increasing interaction in online learning.

Meeting Critical State Needs

Analysis of distance education student credit hours (SCHs) taught by UNC institutions in FY 2001 indicates that UNC is indeed focusing its distance education efforts on critical need areas of North Carolina. As Figure 8 shows, nearly two-thirds of SCHs produced were in the three critical need areas of teacher education, technology and computer science, and health professions education.

Figure 8. Distribution of UNC Distance Education Student Credit Hours (SCHs) by Area of Critical Need: FY 2001



Ensuring Quality in UNC Distance Education Programs

UNC constituent institutions are committed to providing the same level of quality instruction to students enrolled in distance education programs as for students in on-campus degree programs. In general, the same evaluation processes for course and instructor quality used on campus are used for distance programs as well. Program assessment is typically done on a course-by-course basis. Some of the approaches to ensuring quality include: student surveys on quality of course and instructor, analysis of student performance and demographic data, surveys of satisfaction with services such as registration and library access, peer evaluation of teaching, program advisory councils, use of evaluation specialists, and feedback from employers and internships.

Each UNC distance education program must provide a variety of quality-related information to the Office of the President before the program is authorized for establishment, including: intended outcomes and learning objectives, curriculum and schedule, faculty and support staff, library and learning resources, physical resources,

financial support, and evaluation and assessment. These requirements conform with standards established by the Southern Association of Colleges and Schools (SACS) Commission on Colleges (COC), which includes quality of distance education programs among the criteria that accredited institutions must address.

The UNC Office of the President also assesses perceived quality of distance education programs by comparing results of surveys conducted with students enrolled in comparable on campus and distance degree programs. Outcomes of the last round of surveys indicated that the great majority of distance education students are very pleased with the quality of their education, and their ratings of their educational experiences and outcomes were generally similar to those of on-campus students. Over 90 percent of both undergraduate groups gave their instructors an overall rating of excellent or good on a set of eight measures of faculty teaching effectiveness. Off-campus undergraduate students were more likely to rate campus technology services as either excellent or good, although on-campus undergraduate students were more likely to rate services as excellent or good that are traditionally offered on campus, such as employment search assistance. The great majority of undergraduates in both groups believed that their educational experience contributed to their knowledge, skills, and personal development on a variety of dimensions, including writing, mathematical, and speaking skills.

Graduate students, both on and off campus, were similarly positive about the quality of their instruction, with 94.7 percent of off-campus students and 95.0 percent of on-campus students rating their instruction as excellent or good. Although graduate student ratings of advising and support services were generally similar, off-campus graduate students rated these services slightly higher in all five advising areas of the survey. The latest iteration of these surveys is being conducted in spring 2002, and analyses should be completed in summer 2002. In general, faculty teaching distance education classes have found their students to be motivated and to perform at levels of achievement comparable to their on campus student counterparts.

One indication of the quality of UNC online programs is the fact that *US News and World Report* named the Western Carolina University online master's program in Project Management as one of the best online business programs in the nation. Although most distance education programs have only been established in recent years, preliminary indications are that degree completion rates are comparable to on-campus programs.

Another powerful indication of the quality of UNC distance education programs comes from comments offered by distance education students and others regarding their experiences with these programs. **Attachment 1** provides a sample of comments that students, faculty, and others have offered about the contributions that UNC distance programs have made to their communities and the differences these programs are making in people's lives.

Cost Tracking and Cost Comparisons

Framework for Analysis

A two-part approach was taken to satisfy the cost-related reporting requirements of the legislation. First, each campus provided a report detailing expenditures of the 2000-01 appropriation for degree-related distance education instruction. Next, costs were measured for a sample of instruction offered both on- and off-campus during the spring and fall 2001 semesters.

Part I: Costs of Providing Programs for Fiscal Year 2000-01

Methodology

Each campus provided a report of total expenditures for degree-related distance education that indicates that, at a minimum, the amount expended in support of this instruction was equal to the appropriation received. A copy of the campus instructions and report format is included as Attachment 2.

Results

Total appropriated funds being accounted for included $12,890,335 for base year (1998-99) funding, $3,895,187 for the FY 1999-2000 increment, $10,000,000 for the FY 2000-01 increment, and 1,712,476, which is a reallocation of funding originally provided for cooperative doctoral programs and graduate centers. This total of $28,497,998 represents total state funding provided in support of for-credit distance education.

Each campus expended the amount of its respective state appropriation in support of degree-related distance education. $1,421,858, or approximately 5 percent of these funds, was carried forward for expenditure in fiscal year 2001-02.

Conclusions

The appropriations received for distance education instruction and the related tuition receipts were used to fund for-degree-credit distance education; of the total amount expended, 58 percent was spent for salaries, wages, benefits and contracted services related to instruction, course development and student services; 14 percent purchased necessary information technology and instructional equipment; 26 percent supported libraries, purchased instructional supplies, and enabled faculty members to travel to deliver off-site instruction. The remaining 2 percent—almost $800,000—was used to help meet mandated reversions to the State.

Part II: On-Campus to Off-Campus Comparison

Methodology

The course was selected as the unit of analysis, since there are very few programs that are delivered in their entirety both on- and off-campus, or which conclude within the course of a single year. The appropriateness of this choice is echoed by the methodology proposed by the National Center for Higher Education Management Systems' "Procedures for Calculating the Costs of Alternative Modes of Instructional Delivery (August 1999)," which points out that, though previous cost work disaggregated overall cost data to the level of discipline and course level, allowing the calculation of the cost per student credit hour for teaching a particular course, the necessity of looking at the costs of varying delivery methods which is now needed to create managerially useful information dictates a deviation from that traditional methodology.

In order to satisfy the reporting deadline, the calendar year 2001 was chosen as the measurement period. Courses taught in either spring 2001 or fall 2001 qualified for measurement. The methodology was designed to capture total costs. Where possible, actual costs were used; for allocation of indirect (facilities and administration) costs, a variation of the method used to charge indirect costs on federal contracts and grants was used. The standard formula was adapted to recognize the intent to capture total costs, and was applied on an institutional basis. A copy of instructions provided for campus use in gathering these costs is included as Attachment 2.

A sample of "course pairs" was selected to compare an on-campus course to a similar off-campus course. Similarity was defined to mean courses of the same general course type, discipline and instructional level that were taught by an instructor on a similar level. The overwhelming majority of the course pairs selected were separate sections of the same course taught during the same time period.

Composition of Sample

- 33 course "pairs" were selected for study.
- Each institution receiving state distance education funding for FY 2000-01 participated.
- The sample was chosen to include courses with variations in :
  - Methods of instructional delivery
  - Instructional level (both undergraduate and graduate)
  - Discipline

Sample Breakdown

The following tables profile the sample courses by breaking down the 66 courses studied based on several different criteria. An equal number of on- and off-campus courses (33 each) were selected in "pairs" for purposes of comparison. Some level of

distance education has historically been carried out at each of our campuses. Our sample of courses reflects the general population in that much of our off-campus instruction continues to be done in a traditional, face-to-face mode; however, we continue to see this mix shift as we integrate available and useful technologies into our instructional repertoire.

Table 3. Sample Courses by Primary Delivery Method

	On-Campus Courses	Off-Campus Courses
Traditional (Face-to-Face)	33	12
Internet	0	13
Interactive TV	1	6
Videotape	0	1

Course in the sample are arrayed by discipline in Table 4:

Table 4. Sample Courses by Discipline

	On-Campus Courses	Off-Campus Courses
Behavioral Science	2	2
Business	4	4
Education	9	9
Communications	2	2
Engineering	1	1
Humanities	3	3
Information Tech	6	6
Library Science	2	2
Mathematics	2	2
Nursing	3	3
Public Health	1	1

Each institution that received state funding for distance education for the fiscal year 2000-01 participated in the comparison of on- to off-campus courses.

Summary of Results

The following tables present summary cost results. Average costs were down for both on- and off-campus instruction about 5 percent compared to the fiscal year 1999 measurements, which can be largely attributed to experience with and wise use of instructional technology. On average, we found on-campus courses to cost approximately two-thirds as much as the comparable courses taught at a distance. The primary differentiating factor was course development costs; because we are in the early stages of adapting many of our courses for technology-mediated delivery, up-front development costs are often substantial. To a lesser extent, facility charges for distance courses, whether taught face-to-face at a site that requires direct payment for space used or technology costs associated with receive sites, are often significantly higher than those attributable to classroom space for on-campus courses. As Table 5 indicates, the average distance education course costs about $8,800 more than an on-campus course to deliver. Part of this cost may be attributable to development costs of new distance courses.

Table 5. Costs of Courses by Location

	Lowest Instance	Highest Instance	Average
On-Campus	$4,212	$74,617	$19,109
Off-Campus	$6,371	$126,494	$27,952

Not surprisingly, when we analyzed costs based on primary delivery method, we discovered that those courses taught in a traditional, face-to-face manner are less costly than those for which more reliance is placed on technology to deliver instruction. Internet-delivered courses are, on average, 52 percent more expensive than traditional instruction, while courses delivered via interactive video cost 26 percent more than Internet courses.

Table 6. Course Costs by Primary Delivery Method

	Lowest Instance	Highest Instance	Average
Traditional (Face-to-Face)	$4,212	$74,617	$19,513
Internet/WEB-Based	$6,371	$126,494	$29,607
Interactive Video	$20,709	$62,051	$34,199
Videotape	$34,325	$34,325	$34,325

Course costs arrayed by disciplines that were represented in the sample (Table 7) confirm that instruction in disciplines such as engineering and public health is significantly more expensive than that delivered in disciplines such as the behavioral sciences and business. The very high cost of the Public Health courses relate, among other things, to the relatively higher salaries of health professions faculty and to the rather costly mode of instructional delivery (line charges for two-way interactive video and use of studio facilities) for those courses.

Table 7. Course Costs by Discipline

	Lowest Instance	Highest Instance	Average
Behavioral Science	$9,344	$15,906	$12,492
Business	$5,887	$20,758	$15,113
Education	$9,262	$62,051	$23,690
Engineering	$22,841	$76,041	$49,441
Humanities	$6,371	$32,028	$22,133
Info Technology	$4,212	$17,647	$12,437
Library Science	$24,335	$37,693	$32,827
Mathematics	$13,686	$34,325	$27,496
Nursing	$14,744	$37,029	$23,110
Public Health	$74,617	$126,494	$100,556

While course costs appear to correlate with the type of institution delivering the instruction, they actually reflect the attempt to widen the study sample by including some of the higher-cost courses by discipline and the primary delivery method:

Table 8. Course Costs by Type of Institutional Classification

	Low Occurrence	High Occurrence	Average
Research Extensive	$6,371	$126,494	$38,715
Research Intensive	$10,814	$59,057	$27,586
Comprehensive	$4,212	$37,693	$21,174
Baccalaureate	$10,151	$30,487	$18,736

Conclusions

Due to the limited size and time period studied, caution is urged in extrapolating the results obtained in this sample to the expected costs of future on- and off-campus courses. This preliminary exercise can, however, provide us with information that should be useful as we move forward in refining our cost methodology for future measurements.

In general, courses taught off-site tended to be about one and one-half times more expensive than those taught on campus. This appears to be directly related to the percentage of off-campus courses employing other than traditional delivery methods ("face-to-face", i.e., instructor in the same physical location at the same time with students). As concluded by Dr. Frank Jewett in the 1998 BRIDGE project, our findings indicate that technology-mediated instruction has a much higher start-up cost than does traditional instruction and that these higher costs are a significant factor in explaining the higher cost of off-site courses. The differential costs of instruction appear to depend much more heavily upon the technology employed than whether the course is delivered on- or off-site.

Based on our experience with this study, as well as a survey of current literature on the subject, we believe that the most material direct costs of traditional ("face-to-face") instruction, whether on- or off-campus, are in the instructional salary costs, primarily related to the delivery and administration of the course. At the present time, the primary faculty member does the largest part of the course development, delivery and administration, although this may change somewhat when non-traditional delivery methods are employed.

Course development costs comprise a significant part of the costs measured for those courses delivered in a non-traditional manner (for our purposes, Internet or interactive video). The additional costs of technical expertise (often in the form of instructional technology specialists), training, hardware and software required to adapt courses for technology-mediated delivery add further to course development costs. This represents a new category of costs not present in traditionally-taught courses and not anticipated by our current funding model.

Allocated capital cost of physical facilities was much less of a factor than originally anticipated. For the on-campus courses, a portion of the space used, taking both square footage and space utilization factors into account, produced a relatively small charge for virtually all on-site classes. While the costs of facilities for off-site courses taught in the traditional, face-to-face manner were usually higher, they still did not make up a significant portion of the total costs in most cases. As we refine our methodology, and separate out the components of a direct charge, which may be attributable to a set of services provided in addition to physical space, we believe we will find that the cost of the physical facility will become even less significant. Please note that no attribution of the capital costs associated with the infrastructure required to enable courses to be taught at a distance has been made.

Our total cost approach does not, however, tell the full story of probable costs of technology-mediated instruction. We looked at a limited sample of courses, which reflect our current position in terms of instructional delivery, i.e., we are still teaching a large number of courses using the traditional, face-to-face teaching method. Numerous studies

done in a cost-benefit mode indicate that cost per student in those courses taught in technology-mediated courses will decline steadily as enrollment in the courses grows; what we have established in our total cost approach is basically the fixed cost of the course at lower levels of enrollment. Therefore, we believe that Dr. Jewett's observation that "the economic rationale is that change in technology allows the resources, including faculty resources, to be used more efficiently as enrollment increases" will be the case as the UNC system develops more for-credit distance education courses delivered in other than traditional modes. Continuation of state funding for distance education instruction is critical if we are to reap the eventual rewards of the investment already made. The overriding point to keep in mind, however, as we consider how best to employ various instructional technologies is how well they accomplish our goal of providing access to educational opportunities for those students who would not have the option of on-campus instruction and the extent to which they may offset some of the demand for physical facilities to serve the projected increase in on-campus enrollment.

Report Summary

As highlighted in the Executive Summary and documented throughout this report, state enrollment funding for UNC off-campus and distance education degree-credit instruction is achieving its intended effect of expanding access to higher education for North Carolina citizens unable to relocate or travel to a UNC campus and reducing the demand on limited on-campus enrollment capacity. Among other benefits, this funding enables distance education students to pay tuition rates at a level comparable to on-campus tuition rates, thus making higher education not only accessible but also affordable for these citizens.

Prior to the 1998 legislation referenced at the beginning of this report, North Carolina was the only state in the 16-state Southern Regional Education Board (SREB) region that did not provide distance education funding for its university system. The enrollment funding has enabled UNC campuses to make crucial investments in faculty training, staff support, and information technology that are needed to offer high-quality instruction in a rapidly evolving and expanding distance education environment.

Instructional quality is paramount in developing these distance education opportunities, and policies and assessment procedures are in place to assure this. Costs of instruction are monitored carefully, and ongoing attention is being given to developing cost-effective programs through efficient use of information technology and collaboration and coordination among UNC campuses. UNC distance education programs are planned with the goal of raising the educational attainment level of North Carolinians and thus improving their economic and social well being. Careful needs assessments are conducted before programs are developed, and programs authorized are those that would be most beneficial for the economic growth and vitality of North Carolina communities. Consultation with other state partners (*e.g.*, the North Carolina Community College System, public school systems, Area Health Education Centers [AHEC], and professional associations) in planning and delivering quality distance education programs is a high priority.

UNC distance education funding is one of several steps taken by the General Assembly and the UNC Board of Governors in recent years to enhance educational access and efficient instructional delivery in the state, and it is likely that other initiatives and developments will continue to advance this commitment in the future. Both off-campus degree program offerings and off-campus enrollments have increased sharply during the first four years of state funding, and there is every indication that this growth will continue if distance education enrollment funding increases proportionately to accommodate this growth.

Attachment 1

Comments from Students and Others on UNC Distance Education Courses and Programs

Appalachian State University

- As an educator, I most understand the need for, and the enjoyment of, lifelong learning. Formal education to fulfill this need, however, was difficult to obtain. I needed a program that would mesh with my life—first as a mom to two small children and as a fulltime teacher. ASU's distance education program has done just that… The concept of traveling through the program with a cohort of professionals enhances both my work and my benefits. I have developed relationships with educators from other counties in this region from whom I have gotten ideas, contacts, and suggestions to enhance my work with students….
- [Married couple in Rutherfordton who are teachers]: Being married and working fulltime jobs means the distance learning program has provided us with an opportunity to fulfill a dream. The program is very well organized and has proved to be exactly what was presented to us. Without this type program we would not be able to pursue our dreams and still have the opportunity to work and raise our son.

East Carolina University

- [Officer, US Air Force]: Being active duty, I will be rather transient over my career. However, obtaining a Master's degree is pretty important for moving up in the ranks in the military. With Internet classes, it gives me the flexibility to work on it wherever I am stationed.
- I am a fourth grade teacher and I tutor…. I am also a wife and a two-year-old's mother. If it were not for the Internet classes…, I would be unable to pursue a graduate degree…. With the Internet classes, I can work once my daughter goes to bed at night….
- I am a media specialist in an elementary school…. I learned that in order to keep my position, I would have to go back to school to get my master's degree in my field. This posed a problem for me being that at that time, I was a single mom with a single income…. Because of the lack of stress and availability this allowed me [online courses], I will graduate in May at the top of my MLS [Master of Library Science] class and was awarded Outstanding MLS Graduate Student of the Year.
- The joke in my family has always been that my free time is from 2 to 4…in the morning. When I told people I was going back to school, they wondered how I was going to juggle everything. The Distance Ed program has made it possible for me to keep working to support my family and keep my marriage intact; my

kids still recognize my face..., my volunteer work continues, and best of all, I get to do something for myself. [Master of Library Science student]

Fayetteville State University

- My major is Business Administration, and the Fort Bragg campus is allowing me to complete my degree at night because of the 300-400 level courses that are offered. The curriculum is flexible with my work schedule and TDX trips. I really enjoy most of the instructors. They are knowledgeable about the subject matter and appear to really enjoy teaching.
- [Female soldier at Fort Bragg]: I have taken several upper level courses toward by Business Administration degree, with positive encouragement from the instructors. I take my classes at night because of my military career. My biggest assistance comes from instructors who are very caring and understanding. Also, a majority of students are adults who want to better themselves.

The University of North Carolina at Chapel Hill

Comments from Carolina Courses Online students about online learning:

- I would be honored if you would share my story. CCO [Carolina Courses Online] has dramatically changed my life for the better. In fact, I will take the LSAT this October and hopefully begin law school in the fall, something that would never have been possible without online courses... I love distance learning as it has provided me with a second chance to complete my degree and it allows... a wonderful example of lifelong learning for my daughters... [UNC Chapel Hill student who had to withdraw from her on-campus baccalaureate program due to medical reasons and years later finished her degree online]
- It makes you more disciplined. For me, I haven't been a student in about 25 years and this was a new adventure. It acquainted me with the computer and World Wide Web... It also allows someone like me, who must work full time, a chance to pursue a college degree. [African-American Studies course]
- It was a great introduction back to school for me! I plan on taking future courses online also. The freedom and flexibility of an online course fits into my way of life perfectly. [Art course]
- Online courses are far (and I am being very serious), far superior to traditional classroom instruction. This was the best academic experience I have ever had. Pure learning, pure research, pure teaching. It was truly in the interest of knowledge and the intellectual pursuit itself. Beautiful. [History course]
- Since most of us are nontraditional students, it helped get a broader student base who had work experience to share. We were scattered throughout the country yet it seemed like we had our own classroom going on. The flexibility of posting our dialogues worked very well for me personally. [History course]
- I am not a person that likes to speak their mind but online you are free to say whatever you want and I like that; also, it is very flexible; I am able to have other classes and work too. [Philosophy course]

Comments about M.Ed. for Experienced Teachers distance education program:

- Distance learning has made it possible for me to gain confidence in technology, continue graduate level course work and made life-long learning a reality. I probably would not have attempted this masters program if I had to fight traffic, parking, and evenings with conventional graduate work.
- What I like is having time to think about what I'm learning without being constrained to an hour block of time. I've learned more working with other people online, in small group discussion, and in so many different ways than I would have in a traditional classroom setting.
- As a mother of two athletic teenagers and a teacher that serves 11 schools, it would be impossible to achieve a master's degree if UNC had not developed the distance learning Master of Education program. The flexibility of attending classes in my own system and completing coursework online has saved countless hours needed to be an active parent and dedicated professional. The classes have been engaging and stimulating while meeting the needs of a stressed learner. I appreciate the personal relationships I have developed with instructors....

Comments about distance RN/BSN nursing program:

- For most adult students, the demands of family, work and survival can sabotage efforts to pursue advanced degrees. The RN to BSN program provides access to quality educational programming within the constraints of time that so many of us deal with. The educators have diverse backgrounds and many have "been there and done that." This understanding, coupled with technology, has made many dreams of a BSN degree a reality....
- I will jump at the chance to rave about the distance learning program and the fun I have had in earning my BSN degree. I am a mature student with grown children and a full time position with a major health system. This program has afforded me an opportunity to enhance my practice and make myself more marketable in the field of nursing....
- Without the distance learning program I would not have been able to complete my BSN. I am a single mother, and it would have been impossible to attend classes on campus... [It enabled] me to work full time, which is not an option but a necessity...

Comments about distance Master of Public Health program:

- I plan to seek an administrative position with the state. Up to this point, my education and training have provided me with a great deal of technical knowledge.... However, in order to pursue my future goals, [it will be] necessary to exhibit a high measure of leadership and effectiveness in developing and implementing public policy... program planning and evaluation, and community and organizational assessment.... Finally, a master's program for individuals committed to a family, professional career, and pursuit of a continuing education.
- [Comment from faculty member teaching in the program]: It was refreshing to deal with these types of students... There's much more motivation and much more experience and it makes it much more interesting [to teach].

Comment about distance Master of Social Work program:

- Without having the option of a "part-time work/study" format—what I believe you refer to as "distance education"—I would not have been able to obtain my MSW. At the time… I was responsible for all of my own financial obligations and was employed by a community action agency that could not afford to pay very competitive wages…. I found this educational experience to be very successful in that the group became very supportive and interactive, the variety of instructors added dimension and energy to the classroom, the lessons were immediately applicable, and issues that arose on the job could be used as examples or discussion points. Plus, I felt that my life/work experience was being recognized and given credibility….

The University of North Carolina at Pembroke

- This program has enabled me to continue my education close to home and work, and allows me time to still be a mother to my small children. It is nice to have an on-site coordinator to guide you. [Student enrolled in BS in Nursing program offered at Sandhills Community College]
- Education was obtainable for me to acquire my BSN one mile from my job at First Health Moore Regional. I would not have worked toward this goal if the classes were not on the Sandhills campus. [BSN student who will graduate in May]
- I will be graduating from Nursing School in May and will have my first child in June. I have been able to commute to Sandhills from Sanford, where I live and work, and still keep up with my education and being pregnant at the same time.
- I have just transferred into the UNCP program on the SCC [Sandhills Community College] campus, started a new job, and will get married next year. This program allows me to take courses and remain local to my work. It has been an easy transition with [the program coordinator] advising me through the system. [UNCP Business Administration student]
- I am the Fire Chief for… and we have been building a new station. It has been hectic, but I have remained in the evening program with UNCP because it is on the SCC campus. I need to have a bachelor's degree for my job security and this program will provide this to me. [UNCP Business Administration student]

The University of North Carolina at Wilmington

- [Major General David Mize, Commanding General, Marine Corps Base Camp Lejeune]: The UNCW extension programs provide an outstanding service to this base and the Onslow County community. This service is threefold: (1) UNCW provides an avenue for our marines, sailors and other service members and their families to finish an education while stationed at CLNC in areas that will allow them to be employed here and at other duty stations during their service to their country. (2) The education programs provide needed teachers for Onslow County and the base school systems, filling positions that are open due to the tremendous teacher shortage in the Onslow County area of North Carolina. (3) The excellent

academic reputation of the university and university system makes CLNC proud to have such institutions providing programs to our service members.

- [Dr. Ronald Singletary, Superintendent of Education in Onslow County, speaking about UNCW teacher education programs at Coastal Carolina Community College]: This has been a truly successful venture for us. It has provided an avenue for us to secure much needed teachers through a unique partnership with Coastal Carolina Community College and the University of North Carolina at Wilmington. We have been so impressed with the quality of individuals who have entered through this program, and this has certainly afforded an opportunity for some who would not be able to accomplish their goal through the traditional route. As the teacher shortage continues to unfold, the value of this joint venture will only increase.

Western Carolina University [consortium]

- I graduated from the consortium [a UNC five-campus consortium offering a distance Master's in Speech Communications Disorders program] last August, and I would just like to extend a sincere and heartfelt thank you to all the coordinators, professors, and especially to Laurie [the central consortium coordinator] for the continued support I received throughout my two years in the program. I am now back in the Cumberland County school system as a full-time, licensed speech/language pathologist… To the current consortium students, I just want to say that you all are in excellent hands and that even though things seem impossibly tough at the moment, they WILL GET BETTER! I miss the camaraderie and companionship I experienced while in the program, and feel blessed to have met such great, knowledgeable and friendly [speech communications] therapists…
- [Response of another WCU consortium student to the above comments]: You summed up the gratitude that all the consortium students should feel. This program allowed all of us to become better therapists, make friendships that will last forever…, earn a lot more money each month, AND keep our job. What a deal!!! I will always be grateful for the opportunity given to me, the dedication of the staff and professors, and the commitment of the State of North Carolina…

Winston-Salem State University

- I am very grateful for the CLS [Clinical Laboratory Sciences] online program. I am a wife, mother of two, and I work part-time at Laboratory Corporation of America. Because of my busy schedule, it seemed almost impossible to obtain a BS degree. However, thanks to the CLS online program, I am only one semester away from obtaining my goal. I am very appreciative to all the WSSU staff who have made my goal reachable. I try to encourage other medical laboratory technicians to utilize this program, because it has truly changed my life…
- [Clinical Laboratory Sciences student]: The courses are very challenging and the exams are thorough. The courses are not to be taken lightly. It is not a piece of cake and will require many hours of reading over and over again. But this is

good!! I don't want it to be easy. If it is easy then I probably won't be able to pass the ASCP exam. Well, it hasn't let me down so far. Every course I have taken is equal as far as being thorough and challenging.... I can be at home with my son at night and if I need to stay late at work I don't have to worry about missing a test or lectures.... I wouldn't be earning a bachelor's degree without it.

- [Social Work student]: WSSU is making a difference in the lives of the families whom I serve. I am equipped to interface and advocate with families for services within the systems when they alone have been unable to do so. I have confidence and credibility professionally to participate... with other professionals to marshal services to make a difference in the life of a child....

The University of North Carolina
OFFICE OF THE PRESIDENT
POST OFFICE BOX 2688, CHAPEL HILL, NC 27515-2688

LAURA R. YOUNG, *Associate Vice President - Finance*

Telephone: (919) 962-4599
FAX: (919) 962-0008
e-mail: lyoung@northcarolina.edu

MEMORANDUM

TO: Chief Fiscal Officers

FROM: Laura Young

SUBJECT: Distance Education Report Data Collection

DATE: August 15, 2001

The 1998 legislation that provided state appropriations for distance education to the University required that we produce a biennial report to the Joint Legislative Education Oversight Committee beginning with spring, 2000. Our second report is due to the committee in the spring of 2002. Part of the report compares the costs of providing distance education courses to the costs of their on-campus counterparts. We are working with your campus distance education directors and budget officers to identify an appropriate sample of course pairs that satisfies the legislative requirement, and will be measuring the costs of the selected courses during calendar year 2001.

The criteria for selecting courses included measures of comparability including similar disciplines, teaching methods, and professorial levels. In addition, the sample was chosen to include examples of various methods of instructional delivery for the distance education courses, as required by the legislation.

Measurement of the costs associated with the selected course pairs for this period will be done under two separate methodologies. First, the process used to measure for the spring 2000 report will be applied, primarily in the interest of obtaining results under a consistent methodology. In addition, we are participating in a Technology Costing Methodology project being conducted jointly by the Western Cooperative for Educational Telecommunications (WCET), the National Center for Higher Education Management Systems (NCHEMS), and the Southern Regional Education Board (SREB) and will be using their methodology to cost these same selected courses. This effort should provide the UNC system with some useful management information, as well as allowing us to refine our instructional costing methodologies and participate in the establishment of national standards. An introductory videoconference

was held on May 30, 2001, in which representatives from all campuses participated. We anticipate holding a follow-up videoconference with the participants in the fall.

Enclosed you will find detailed instructions and forms which will facilitate consistent measurement of relevant costs at all campuses using the spring 2000 methodology. Instructions related to measuring costs using the TCM methodology were provided at the May videoconference; the handbook is also available at http://www.wiche.edu/telecom/Projects/tcm/index.htm. An electronic copy of this information is being forwarded to your budget officers, as well as our campus distance education contacts. Final reports from the campuses should be e-mailed to me no later than Friday, January 18, 2002.

We look forward to working with you and your staff in this effort.

Enclosures

cc: Senior Vice President Gretchen Bataille
Vice President Jeff Davies
Vice President Robyn Render
Associate VP Ken Grogan
Associate VP Jim Sadler
Associate VP James Smith
Assistant VP Ralph McLester

Method A*
Course Cost Data Collection Instructions

Selection of Courses to be Studied

At the request of our Planning Division, each campus is in the process of selecting "comparable course pairs" for consideration of inclusion in the cost study. Campus personnel were asked to identify distance education courses and their on-campus counterparts as "comparable" based on the following criteria:

- Same level (undergraduate, masters, doctoral)
- Same discipline (identical course would be ideal)
- Same primary method of teaching (lecture, lab, etc.)
- Both instructors at similar teaching level (i.e., full professor, assistant professor, adjunct, graduate assistant, etc.)

Campus personnel were asked, in addition, to provide (as far as possible) courses using varying primary methods of delivery (face-to-face, two-way video, WEB-based, etc.)

Course pairs submitted will first be screened for compliance with the four primary criteria, and a sample will be selected such that it conforms to the following criteria:

- Each institution which received distance education funds will study at least one course pair.
- Courses to be studied are roughly half graduate courses and half undergraduate courses.
- At least one course with each primary method of delivery identified will be studied.
- No institution will study more than six course pairs.

Calculation of Applicable Administrative Cost Rate

Insofar as possible, costs collected using this methodology will be actual costs. Where it is impractical or impossible to obtain actual costs, a variation of the facilities and administrative (previously referred to as the indirect cost) rate used by federal granting agencies will be used. The majority of our institutions have derived a "short form" rate on a salary/wage base, and a similar methodology will be used to derive the appropriate indirect cost rate for allocation for purposes of the current reporting.

This "short form" rate includes components for administrative overhead (excluding student services and financial aid), library costs, academic support, and physical plant maintenance and operations. It does NOT include any capital costs; we will present a separate methodology later in these instructions to capture and allocate these costs.

* *Basic methodology used to collect data for the spring 2000 legislative report. Refer to your TCM handbook for instructions on measuring costs using the Technology Costing Methodology.*

Please note that you should use the formula below to calculate an indirect cost rate rather than applying the institutional "short form" F&A rate used to allocate charges to federal granting agencies. The methodology by which the federal F&A rate is derived imposes "caps" in several areas, thereby providing a negotiated "allowable" charge rather than an allocation of actual costs. Because our intent with this reporting is to obtain an accurate measure of actual costs, the rate calculated here will vary somewhat from the institutional federal rate.

Using your institution's 2000-01 CAFR report, you will calculate the rate as follows:

Academic Support (all expenses) + Library (all expenses) + Institutional Support (excluding purpose 160, all expenses) + Physical Plant M&O (all expenses)

DIVIDED BY

Total Personnel Costs for Instruction (all related purpose codes) + Total Personnel Costs for Organized Research + Total Personnel Costs for Public Service.

In general, the numerator will consist of purpose codes 151, 152, 170 and 180 plus any expenditure code 1110 amounts from the purpose codes in the denominator (this captures "indirect" costs). The denominator will consist of purpose codes 101 – 142 minus amounts in expenditure code 1110 and related benefits (this captures "direct" costs). In effect, this calculates the percentage of indirect to direct instructional personnel costs.

Form A Instructions

Form A collects general information related to each course for which costs are being measured. The type of data collected is not meant to be exhaustive; if you feel there are relevant facts affecting the costs of a course, please attach additional sheets as needed.

If a course is being offered at a distance and there are multiple receive sites, please indicate the number and location of receive sites in the general course description. Only one Form C should be used to capture total costs for the course, including costs of receive sites.

Data items which may not be self-evident are described below:

Item A: Indicate whether the course being described is on- or off-campus by checking the appropriate box

Item C: List the section number. If multiple section numbers have been assigned to indicate multiple receive sites, list all applicable section numbers.

Item F: This is the general designation of the course type as a lecture, lab, seminar, etc. Also indicate the number and location of multiple receive sites, if applicable.

Item G: Primary delivery methods include, but are not limited to: face-to-face (instructor teaches students in the same physical location at the same time), Internet (time and place at the discretion of the learner), interactive video (two-way), one-way video, correspondence (materials mailed—may or may not include audiotapes/videotapes).

Item H: If multiple course sections are involved, please include an enrollment breakdown per section.

Items K and L: If computing/telecommunications technology is used to develop and/or deliver a course, please give a brief description of those technologies here. This should be a layman's description, and incorporate briefly the rationale for the use of the technology. Additional sheets may be attached as needed.

Form B Instructions

Form B collects costs related to course development. We are interested in collecting costs related to major development activities and do not intend that an institution attempt to reconstruct costs for face-to-face or other courses which have been in use for longer than one year or for which the development costs were immaterial.

Please note that the first page of this form, which measures direct costs, uses an equated hourly rate for charging instructional and staff salaries. To equate an hourly rate for instructors, use the faculty member's annual salary divided by 1,560 if on 9-month contract and 2,080 if on 12-month contract. To derive an hourly rate for staff, divide the staff member's annual salary by 2,080. These hourly rates should be multiplied by the estimated number of hours the faculty or staff member spent on development of the course.

Applicable benefit percentages for courses taught during the spring 2001 semester were calculated as follows:

For instructional salaries:	
Social Security	7.65
Employer Contribution to ORP	8.64
	16.29
For staff salaries:	
Social Security	7.65
Employer Contribution to TSERS	7.13
	14.78

Applicable benefit percentages for courses taught during the fall 2001 semester were calculated as follows:

For instructional salaries:		
Social Security	7.65	
Employer Contribution to ORP	8.64	*(not official until final budget bill passes)*
	16.29	
For staff salaries:		
Social Security	7.65	
Employer Contribution to TSERS	3.68	*(not official until final budget bill passes)*
	11.33	

Costs related to health insurance premiums will not be factored into course development costs unless the number of hours spent by a faculty/staff member exceeds 25% of that member's available annual time (520 hours for a staff member, 390 hours for a faculty member). If the hours spent on course development exceed this number, multiply $2,256 by 25%, 50%, 75% or 100% (based on the closest number of hours) and record the appropriate portion of medical insurance on the line "Other Direct Costs" for spring 2001 courses. For courses taught in the fall of 2001, the amount to be multiplied by is $2,933. Non-personnel costs directly associated with the development of a course should be included and described. If a material piece of equipment was purchased strictly for the development of courses, a reasonable method for capturing and allocating that cost to an individual offering of the course must be described. Please do NOT include as direct costs of development a piece of equipment which was charged to an academic support, library, institutional support, or physical plant purpose, as these costs will be allocated as part of the indirect costs of delivery.

Facility costs of course development should only be recorded if they are material (see worksheets 1 and 2). For instance, the use of a specialized recording studio for production of videotapes may produce costs which are reportable, while you should NOT include an allocation for use of faculty office or incidental use of classrooms and similar spaces as indirect facility costs.

After total course development costs have been determined, an allocation of costs to the relevant course should be made by dividing the costs by the estimated number of times the institution expects to offer the course.

Form C Instructions

Form C collects costs related to course delivery and administration, including personnel time related to grading, tutoring and other interaction with learners.

You will note that instructional salaries are allocated on the basis of a standard teaching load. We expect this to vary by institution and discipline, and the number that should be used here is the standard teaching load expectation (measured in number of courses) that the department has for the faculty member. Costs of assistants' time are measured on a per-hour basis.

Benefits are being charged at the same rate as for course development (see Form B instructions). For the instructor calculate the appropriate medical insurance charge based on 1/4, 1/2, 3/4 or 100% of $2,256 for courses taught in spring 2001 and $2,933 for courses taught in fall 2001 to correspond to the closest quarter increment of the instructor's load to his annual salary. For other staff medical insurance charges, refer to the guidelines on Form B instructions. To calculate facility costs, see Worksheet 1 instructions on the following page.

The administrative overhead charge is derived by applying the indirect cost allocation rate, derived per the above instructions, to the total salaries, wages, and benefits total from page one of Form C.

Form D Instructions

The first part of Form D summarizes course costs and should be self-explanatory. Although we have included a space for presenting other costs at this point, the final iteration of these costs should classify each item as a cost of either the development or delivery/administration of the course.

The second part of Form D collects costs related to course revenues.

Required fees include athletics, student activity, educational and technology, health, and debt service fees for on-campus students; educational and technology fees only for distance education students.

Form E Instructions

Form E collects data summarizing the cost of the course from the student's perspective. Although this information is not required by legislation, it will be useful to collect this data as we gather our initial cost-comparison costs for future use.

Please describe as accurately as you can DIRECT costs to students participating in the course.

Worksheet 1 Instructions

Worksheet 1 provides a methodology for capturing capital costs and allocating these appropriately to the individual course.

Items which may not be self-evident are described below:

Item A: Indicate whether the cost is related to course development or course delivery.

Item F: The replacement cost used in this calculation should be the amount reported in the latest annual institutional report to the North Carolina Commission on Higher Education Facilities.

Item L: The number of room hours used by this course should include both direct contact hours with students plus any hours the space was used for course preparation and/or administration.

Item O: The average number of room hours used should be per the Utilization Edit printout generated by the Conflict program. Your campus Facilities Inventory Project Officer will be able to provide you with this information; if not, contact Bill Barlow at UNC General Administration.

Worksheet 2 Instructions

Worksheet 2 provides a methodology for capturing capital costs when the area used is categorized as special-use, high-technology and allocating these appropriately to the individual course. The definition for these spaces is generally an area which has been designed to be more sophisticated technologically than the typical "wired" classroom space, for instance, an area used to produce two-way interactive video instruction. Please contact Laura Young to discuss/clarify any areas you feel may fit this definition prior to using Worksheet 2 methodology.

The North Carolina School for Science and Mathematics has recently completed construction of their Information Technology Center, and we are using the construction and distance learning broadcast equipment costs per square foot of these areas as a reasonable proxy for campus use.

Classifications of Cost Categories

Table 1 is provided to ensure consistency among campuses in measuring specific cost items. Any questions related to how a particular cost should be categorized should be directed to Laura Young.