



**THE UNIVERSITY**  
*of* **NORTH CAROLINA**  
*at* **CHAPEL HILL**

Promoting Success for Carolina's  
Undergraduates:

*Factors Related to  
Retention and Graduation*

**A Report Presented to  
The Enrollment Policy Advisory Committee**

**By  
The Retention Study Group**

**2004**

# Table of Contents

Executive Summary .....	3
Introduction .....	5
What is Known About Factors Related to Retention and Graduation .....	6
A Brief Review of Selected Literature .....	6
Observations of Carolina Faculty and Staff .....	6
Methodology.....	8
Limitations of the Study .....	9
Carolina’s Retention and Graduation Rate Comparisons.....	10
Retention and Graduation Patterns of the 1997 and 1998 Cohorts.....	11
Factors Related to Retention and Graduation Outcomes for the 1997 and 1998 Cohort Members .....	15
What Matters Most? .....	21
Factors that Predict Transferring to Another Four-Year Institution .....	22
Factors that Predict Not Graduating Or Transferring .....	24
Academic Policies and Practices that Impact Student Retention and Graduation.....	28
Summary of Findings .....	34
Recommendations .....	35
Appendices .....	38
Appendix A: Members of the Retention Study Group .....	38
Appendix B: References .....	39
Appendix C: Results of Multivariate Analysis.....	40
Appendix D: Comparison of Academic Eligibility Policies .....	42
Appendix E: Comparison of Drop Policies .....	45

# Executive Summary

Carolina's vision of becoming the leading public institution is grounded in its commitment to providing the strongest possible undergraduate educational experience. As indicated in the *Academic Plan* (2003) and the *Measures of Excellence* (2003), retention and graduation rates are important indicators of our success in that area. The study reported here was initiated by the Enrollment Policy Advisory Committee (EPAC) as part of its ongoing efforts to assess the outcomes of our institutional efforts to improve the undergraduate experience. The Retention Study Group, a subcommittee of EPAC, conducted a comprehensive study during the 2003-04 academic year in response to the following questions:

- What factors impact retention and graduation for students at Carolina?
- How do institutional policies and services impact persistence and graduation?
- What do these results suggest in terms of steps that might be taken to better support students in persisting and graduating from Carolina?

The study design involved analysis of a variety of qualitative and quantitative data. A longitudinal analysis of the enrollment patterns of the combined freshman cohorts of the entering class of 1997 and 1998 provided information on the factors impacting retention and graduation. Feedback from students who had left the University to attend another institution or had simply not graduated within five years was compiled through surveys. Content analyses of transcripts and letters from students appealing academic ineligibility dismissals were conducted in an attempt to understand student perspectives on issues related to their struggles to complete their degrees. In addition, comparisons were made between the academic policies of Carolina and our public peer institutions.

## Major Findings

- In the most recently published comparisons, Carolina's 83% six-year graduation rate was slightly below those of UC-Berkeley, UCLA, Michigan, and Virginia, which range from 85% to 92%.
- Using the students included in the combined 1997 and 1998 cohort study reported here, 83.9% of students graduated from Carolina within five years, 5.7% transferred to another four-year institution, and 10.4% neither graduated nor transferred.
- The majority of students who left Carolina and were academically eligible at the time of departure went on to enroll at another four-year institution. About half of these students transferred between the freshman year and sophomore year.
- Half of all students who dropped out in year two or later were academically ineligible at the end of their last term of enrollment.

## Factors that Predict Transferring to Another Four-Year Institution

- After controlling for all other variables in the analysis, factors that increased the probability of leaving Carolina to attend another four-year institution included being White or Asian, being a non-North Carolina resident, having a somewhat weaker high school curriculum, a low level of participation in social events on campus, and a low first year grade point average.

- Results of a survey of students who transferred to another institution indicated that the majority reported having problems adjusting to the size of Carolina and developing a personal connection to the students and faculty.

### **Factors that Predict Not Transferring or Graduating Within Five Years**

- After controlling for all other variables in the analysis, factors that increased the probability of not transferring or graduating with five years included being a first generation college student, low family income, low first year grades, becoming academically ineligible, and a pattern of stopping out and attending part-time.
- The reasons most frequently cited by students for not having graduated within five years involved academic difficulties, financial struggles (including perceived need to work), and family problems and obligations.

### **Comparisons of Academic Policies and Procedures**

- The minimum term and cumulative grade point average requirements for maintaining academic eligibility at Carolina are considerably lower than those required by any of its public peer institutions.
- The structure of Carolina's eligibility requirements, which change incrementally from a 1.500 GPA to enroll in year two to a 2.000 GPA to graduate, possibly contributes to some students' inability to graduate or continue after several years of minimally acceptable performance.
- Nearly all of the peer institutions offer a probationary period for students in academic difficulty, allowing them to remain enrolled while removing their deficiencies.

### **Recommendations of the Retention Study Group**

- Expand the current Summer Bridge Program for first year students and offer other academic enrichment programs and services to support academic success.
- Establish a more effective early warning system for first year students experiencing academic difficulty to allow more time for them to seek assistance.
- Increase opportunities for small classes and supplemental instructional services.
- Expand cultural and co-curricula programs that promote smaller communities, cultural identity, and a sense of belonging at Carolina.
- Develop an early intervention process for students who become ineligible which would allow them to stay enrolled for a probationary period while working intensively with academic advisors and other support personnel to address the issues that led to their academic difficulties.
- Study the current academic eligibility regulations and recommend changes that will facilitate student success in completing their degrees.
- Maintain an on-going program of research and evaluation concerning student retention and graduation at Carolina.

# Introduction

One of the cornerstones of Carolina's vision of becoming the nation's leading public university is its commitment to providing the strongest possible undergraduate educational experience (The Academic Plan, 2003). The impressive academic credentials and personal qualities that our new freshmen bring with them to Chapel Hill each fall surpass those of previous classes year after year. The same high levels of intellectual curiosity, creative talent, leadership skills, and community engagement that made these students standouts in a very competitive admissions process translate into high student expectations for their experience at Carolina. Our success in attracting these high quality students further challenges us to ensure that we provide a stimulating yet nurturing environment that gives students the opportunity to take advantage of all that Carolina has to offer. There is considerable evidence that those who graduate from Carolina felt that their expectations were indeed met. Surveys of our graduating seniors and alumni indicate that upwards of 95% of respondents report high levels of satisfaction with their overall educational experiences at Carolina. However, we know little about how well we have served students who do not persist to the point of completing these surveys.

Another very important measure of the quality of the undergraduate experience – and arguably, the ultimate measure -- is the percentage of our students who successfully complete their programs and graduate from Carolina. The most recently published statistics indicate that over 83% of our freshmen persist and receive a degree from Carolina within six years. While this graduation rate would be the envy of many Research I institutions, it is below that of the highly selective public institutions with which we most often benchmark our achievements. A better understanding of how student and institutional characteristics interact to influence these observed variations in graduation rates is important in our efforts to compete with our peers in attracting top students.

Given the priority that Carolina also places on recruiting a diverse student body, it is critical to examine how well we are helping students of all types to realize their potential once they enroll. National statistics indicate that students from disadvantaged backgrounds are at greater risk of dropping out of college than their peers (Adelman, 1999; American Council on Education, 2002). Anecdotal reports from academic advisors and preliminary data from the UNC-Chapel Hill Office of Institutional Research and Assessment suggested that these trends might also exist to some degree among our students. There is much to learn about how individual student backgrounds and behaviors influence persistence at Carolina, as well as how effectively our current policies and services support their success.

These commitments to ensuring that all entering Carolina students will have an optimal undergraduate experience and complete their degrees fueled interest in more detailed data reflecting our progress in retaining and graduating students. As a result, the Enrollment Policy Advisory Committee appointed an on-going Retention Study Group and charged it with reviewing data and making recommendations for enhancing retention and graduation rates. The Retention Study Group is composed of faculty and staff in the Provost's Office, Institutional Research and Assessment, Admissions, Scholarships and Student Aid, Minority Affairs, Academic Counseling Services, Academic Support Services, Academic Advising Services, and Student Affairs, most of whom are directly involved with students at various points in the undergraduate career. A list of the members is contained in Appendix A.

The following research questions guided the focus of the study reported here:

- What factors impact retention and graduation for students at Carolina?
- How do institutional policies and services impact persistence and graduation?
- What do these results suggest in terms of steps that might be taken to better support students in persisting and graduating from Carolina?

This report summarizes the findings of the Retention Study Group to date, offers recommendations for actions that might be taken to increase graduation rates, and identifies topics that deserve further study.

# What is Known About Factors Related to Retention and Graduation

## A Brief Review of the Research Literature

Over three decades of research has identified variables that consistently predict college student retention and graduation across a variety of institutional types. These findings, which are summarized briefly below, informed the choice of variables used in this study of retention and graduation at Carolina and aided in the interpretation of our findings.

### Demographics and Socioeconomic Status

**Parent Education.** The majority of studies have shown that the level of parent education is related to college persistence (Horn, 1998; Choy, 2002). First generation college students are at risk for not persisting for several reasons. Parents who did not attend college tend to have lower incomes, making college attendance appear financially prohibitive. Also important is the fact that first generation college students do not have the advantage of the informed guidance and reassurance that college educated parents can provide their students in negotiating the challenges of getting through college.

**Family Income.** The persistent finding that low-income students, even after receiving grants and other forms of financial aid to cover need, still tend to have lower completion rates is related to several factors. Low-income students are more likely to have lived in neighborhoods with schools that were under-resourced. Some studies have suggested that low income students are more likely to be concerned about debt, and may turn down loans in favor of working, which detracts from their ability to become academically and socially integrated into campus life.

**Sex and Race.** A number of studies have indicated that females are more likely to be academically successful in college than males, which is linked to increased persistence. National studies have shown that minority students tend to persist and graduate at lower rates than their majority counterparts, typically because they are more likely to be first generation

college students and have lower family incomes. However, some researchers have found that initial differences by sex and race disappeared after controlling for other variables such as academic preparation and need-based aid in the form of grants (Adelman, 1999).

## **Financing College**

The research literature on the impact of financial aid on persistence is complicated. As described above, students with high financial need often bring with them other characteristics that put them at risk for not persisting such as first generation college status and a less rigorous high school curriculum. Generally, financial aid has been shown to increase persistence among needy students, particularly when the aid package mix includes a high proportion of grants. Loans, to the extent that they allow students to avoid working excessively and spend more time on their studies, have been related to persistence. The research indicates, however, that working one to 15 hours per week is not harmful to persistence, and may even be beneficial in the case of Work Study or other on-campus jobs that help the student stay engaged in campus life (Cuccaro-Alamin & Choy, 1998).

## **Academic Preparation**

***Strength of high school curriculum.*** More recent studies have suggested that having completed a strong high school curriculum is one of the most important predictor of academic success and persistence in college. In fact, rigorous high school preparation has been shown to significantly lower the risk of attrition for first generation college students (Warburton, Bugarin, & Nuzez, 2001). Other variables play an indirect role in persistence through their relationship with the quality of the high school curriculum. For example, small, rural high schools often have fewer resources to offer advanced coursework and other enrichment activities (The Institute for Higher Education Policy, 1994).

***High school achievement.*** Adelman's (1999) analysis of a national sample of college students indicated that high school achievement measures such as class rank and grade point averages were positively related to college persistence, but had less impact than the strength of high school curriculum.

## **Academic Intensity**

The rate at which students complete credit hours towards the degree is of course related to time to degree. However, part-time students and those who disrupt (or "stop out" from) their studies are less likely to graduate at all than those who enroll continuously and on a full-time basis (Adelman, 1999; Lafer et al, 2002). Academic difficulties that result in ineligibility, retaking courses, and changing majors also impact both time to degree and eventual graduation by slowing down progress towards the degree.

## **Academic and Social Engagement**

The extent to which students make connections with the social and academic life of the campus has been consistently related to persistence. Considerable research supports the theories of Tinto (1987) and Pascarella and Terenzini (1991) concerning the positive effects of relationships with other students, faculty-student interactions, and taking advantage of campus resources that support academic success.

## **Academic Achievement**

Since students who fail to maintain satisfactory academic progress are at risk for being dismissed, maintaining an acceptable level of academic achievement is one of the strongest predictors of eventual graduation. Academic success in the freshman year is particularly important, as this builds student confidence, indicates preparedness for advanced work, and improves efficiency in accumulating credits needed for timely degree completion.

## **Anecdotal Reports from Student Professionals at Carolina**

In addition to reviewing the research literature on retention and graduation, an important phase in the design of this study was talking to individuals who work directly with Carolina students to obtain their perspectives and observations about what impacts persistence. Several hours of discussion with these professionals resulted in the following list of risk factors:

- Low family income
- First generation college attendee
- Graduate of a rural high school
- Carolina was not first choice
- Working excessively
- Financial and other obligations to the family of origin
- Ineligible status one or more times
- Combination of low SAT Math scores and choice of a quantitative major
- Undecided/undeclared major as a junior

These observations were consistent with published findings on factors related to student persistence and time to degree.

## **Methodology**

A variety of data sources and analytical methods were used in this study.

Comparative retention and graduation rates were obtained from reports published by the University of North Carolina System and the Association of American Universities Data Exchange. At the time of this study, the latest available peer data for comparing six-year graduation rates were for freshman enrolling in 1997.

The majority of the analyses conducted for this study were based on a longitudinal dataset constructed to follow the undergraduate careers of the freshman cohorts who entered Carolina in 1997 (n=3,414) and 1998 (n=3,427). The data gathered included demographic variables; admission application information; term-by-term records of enrollment, eligibility status, grades, and credit hours attempted and earned; financial aid eligibility and awards; and freshman survey responses. These data were pulled from a number of separate information systems on campus, compiled, and analyzed by the Office of Institutional Research and Assessment. Enrollment data on the cohort members were collected through September 2003, providing six full years of observations for the 1997 cohort and five full years for the 1998 cohort.

The opportunity to view individual student enrollment data across time provided some insights that were not possible with the annual point-in-time snapshots taken for official retention and graduation reports. It was discovered that a number of students are awarded degrees retroactive to a previous year due to a variety of circumstances, and the graduation rates already publicly reported for that year are not subsequently adjusted. In addition, students accepted to enter professional degree programs (e.g., PharmD) as juniors or seniors were being counted in subsequent semesters as dropouts. For this study, the retroactively awarded degrees were counted in the year in which they were actually earned and students who entered the PharmD program were counted as enrolled through and then graduated at the end of what would have been their senior year of undergraduate study. As a result of these adjustments, the graduation rates reported on the cohorts used in this study are approximately three percentage points higher than existing official reports.

Data on subsequent enrollments at other institutions by students who left Carolina without graduating were obtained from the National Student Clearinghouse. With over 90% of all institutions in the United States contributing enrollment information to the Clearinghouse, the reliability of this system for determining if an individual student enrolled at another institution is very high. However, the data do not reveal whether students who left Carolina received a degree elsewhere.

Current University academic policies were reviewed and feedback was obtained from academic advising staff concerning their observations of the effectiveness of these policies in promoting student success. Carolina's academic eligibility policies were compared to those of its ten public peer institutions to identify similarities and differences in minimum grade point average requirements, criteria for dismissal, and other practices that might impact student progress towards graduation. Descriptions of these institutional policies were compiled through searches of institutional websites and conversations with campus officials.

A study of factors related to retention and graduation would not be complete without obtaining feedback directly from students. Two surveys were conducted for this study: one of students who had transferred to another four-year institution, and another of students who had not graduated five years after entry as a freshman. In addition, the contents of letters written by students requesting waivers of academic eligibility requirements were analyzed in an effort to better understand the circumstances that lead to difficulties in completing degrees.

## **Limitations of the Study**

All studies of retention/graduation suffer from the necessity of limiting the period of observation to some point that might not capture the complete academic lifespan of a cohort. In this case, the availability of reliable data constrained us to retrospectively viewing the progress of the 1997 and 1998 cohorts for six and five years, respectively, following the year of initial entry to Carolina. Some of these students will continue to pursue their degrees, and others will return from prolonged "stop-outs" to resume their studies many years later. However, since historical trends suggest that less than 2.0% of Carolina students enroll or graduate at any time after the sixth year, the time frame of the present study is most likely sufficient for identifying the major factors related to retention and graduation.

Reviews of dozens of published reports confirm that even the best-designed studies are able to account for only a limited proportion of the variance in student retention and graduation outcomes, typically less than 30%. Most of the unexplained variance is due to difficulties in measuring factors such as the type and quality of student experiences at the institution and the degree to which students' personal issues intervene to influence academic decisions. Because this is a retrospective study, much of our ability to understand the experiences of these students is limited to making inferences from existing data that were not originally collected for the purpose of supporting a longitudinal study of this nature. In particular, data that might reflect engagement in out-of-class academic activities as well as co-curricular and social activities on campus were not available for the entire cohort group, and this was unfortunate given the emphasis in the research literature on the importance of these effects. Efforts are now underway to identify the types of data that should be systematically collected in the future to provide us with a more complete understanding of student behaviors and experiences from beginning to end.

## Retention and Graduation Rate Comparisons

By most standards, Carolina's record of retaining and graduating students is impressive. Within the University of North Carolina System, Carolina's retention rates for the 1997 cohort as measured in terms of number still enrolled each fall after initial entry are about 30 percentage points higher than the mean for all other institutions (see Figure 1). The difference between Carolina's graduation rates and those of other UNC institutions for the 1997 cohort is even greater. The four-year graduation rate for Carolina students was higher than the average six-year graduation rate on other campuses (see Figures 1 and 2).

Figure 1

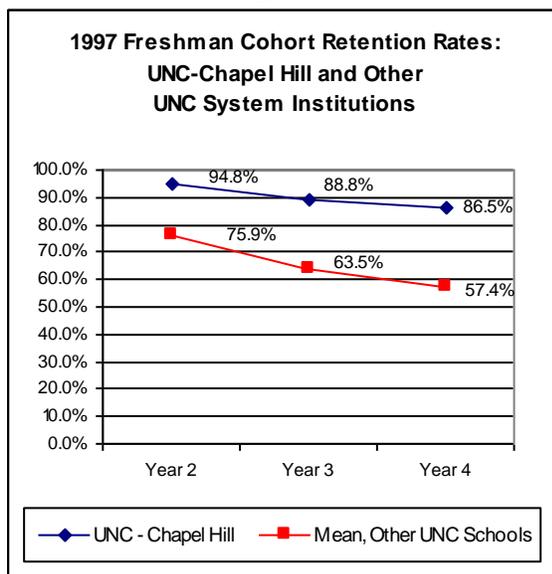
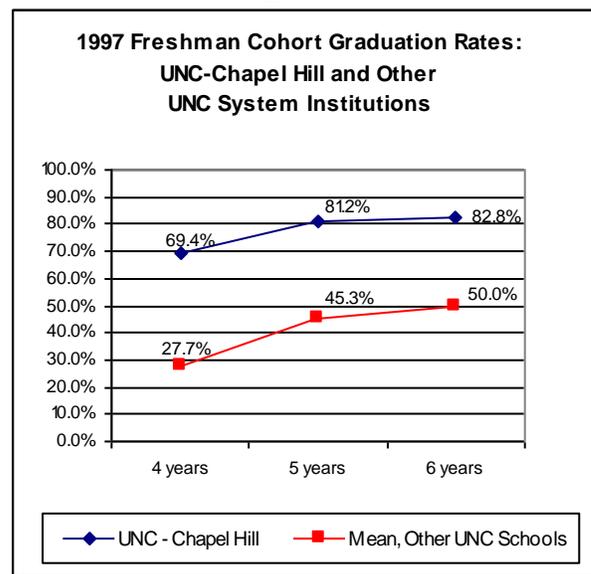


Figure 2



Among other research institutions in the Association of American Universities (AAU), Carolina is in the top quartile of publics and the second quartile of public and private institutions in six-year graduation rates. In terms of the public institutions most frequently used for benchmarking, Carolina's retention rates were comparable to those of Virginia, UCLA, Berkeley, and Michigan (see Table 1). The four-year graduation rate at Carolina was second only to that of Virginia; however, the six-year graduation rate was slightly below that of all four peers.

	Retention to:			Graduation Within:		
	Year 2	Year 3	Year 4	4 Years	5 Years	6 Years
Virginia	97%	90%	89%	83%	91%	92%
UCLA	96%	90%	85%	44%	79%	86%
Berkeley	95%	91%	87%	52%	81%	85%
Michigan	95%	90%	86%	65%	83%	85%
<b>UNC-Chapel Hill</b>	95%	89%	87%	69%	81%	83%

## Persistence and Graduation Patterns of the 1997 and 1998 Cohorts

From this point on, this report will focus on the longitudinal analyses undertaken using the combined 1997 and 1998 freshman cohorts. Because these data were adjusted to include retroactive graduations and students who entered professional programs early, the retention and graduation rates will not match other published reports using different methods of defining cohorts.

### Cohort Status Each Year After Initial Enrollment

**Enrollment.** Carolina is very successful at retaining students from the first through the fourth year, as shown below in Table 2. Over 87% of original cohort members were still enrolled in the fall of what should have been their senior year. Not all of those fourth year enrollees completed requirements for graduation by the end of that year; 14% of the original cohort members continued their enrollment into a fifth year, and 2% into a sixth year. The probability of graduating within six years for those who are enrolled at the beginning of year four is .95.

	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7*
<b>Graduated</b>	0.0%	0.0%	1.5%	71.7%	83.8%	86.1%
<b>Enrolled</b>	94.4%	89.8%	87.1%	14.2%	2.0%	0.8%
<b>Stopped Out</b>	1.3%	2.5%	2.0%	2.3%	1.7%	0.6%
<b>Dropped Out</b>	4.4%	7.8%	9.3%	11.8%	12.5%	12.5%

\*Year 7 statistics are based on the 1997 cohort only.

**Graduation.** Nearly 72% of students graduated in four years or less. Of those who took longer than four years to obtain their degrees, most graduated within the next twelve months, and many needed only one more semester to finish requirements. Only 51 students in the 1997 cohort (1.5%) graduated in the sixth year.

**Stopped Out.** This category includes students who were not enrolled for one or more regular (fall or spring) semesters but returned in a later fall or spring term. There many reasons students might have for stopping out; however, 45% of all first-time stop-outs taken by students in these cohorts coincided with academic ineligibility.

**Dropped Out.** A “dropout” was defined for this study as a student who ended enrollment without graduating and did not return to Carolina during a regular (fall or spring) semester within the period of observation.<sup>1</sup> The figures in Table 3 below include only those who left within four years of initial enrollment.

<b>Dropped Out During or After Year</b>	<b>N</b>	<b>% of Total Cohort</b>	<b>% of Dropouts Academically Ineligible</b>
1	298	4.4%	24.8%
2	232	3.4%	31.0%
3	108	1.6%	47.2%
4	170	2.5%	51.8%
Total Over 4 Years	808	11.9%	35.3%

Table 3 indicates that students were somewhat more likely to drop out during the first two years. In addition, the percentage of dropouts who were academically ineligible at the end of their last semester of enrollment doubled from year 1 to year 4, with about half of those who dropped out after year two leaving with eligibility problems.

Students identified as dropouts were tracked through the National Student Clearinghouse and further classified as “**transfers**” if a subsequent enrollment was found at a two-year or four-year institution. A little over 7% of all entering freshmen eventually transferred to another institution. Transfers accounted for more than half of the students who left Carolina without returning. Table 4 below indicates that high percentages of those who left in the first two years transferred to another institution, and most to a four-year institution. Of students who transferred, nearly half did so during or after the first year (see Figure 3).

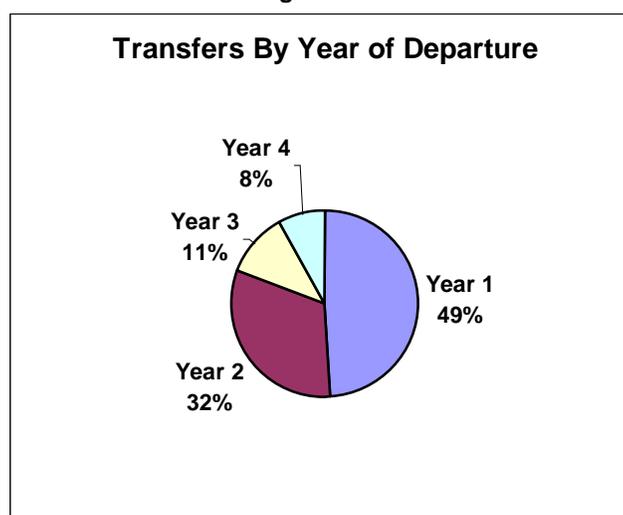
The subsequent enrollment patterns of students who left Carolina varied considerably. A third of transferring students enrolled in multiple institutions over the next few years. About 79% percent of them eventually enrolled at another four-year institution even though many of these students also took courses at two-year institutions either concurrently or prior to enrolling at another four-year institution. Approximately 21% of those who transferred attended only two-year institutions.

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<sup>1</sup> Since students can potentially return to Carolina or enroll at other institutions in later years, the number of “dropouts” referred to in this report most likely overstates the number of true permanent dropouts.

<b>Dropped Out of Carolina During or After Year</b>	<b>Transferred to a 2-Yr Institution</b>	<b>Transferred to a 4-Yr Institution</b>	<b>N</b>	<b>% of Total Cohort</b>	<b>% of All Dropouts</b>
1	43	201	244	3.6%	81.9%
2	30	128	158	2.3%	68.1%
3	14	41	55	0.8%	50.9%
4	18	22	40	0.5%	23.5%
Total Over 4 Years	105	392	497	7.3%	61.5%

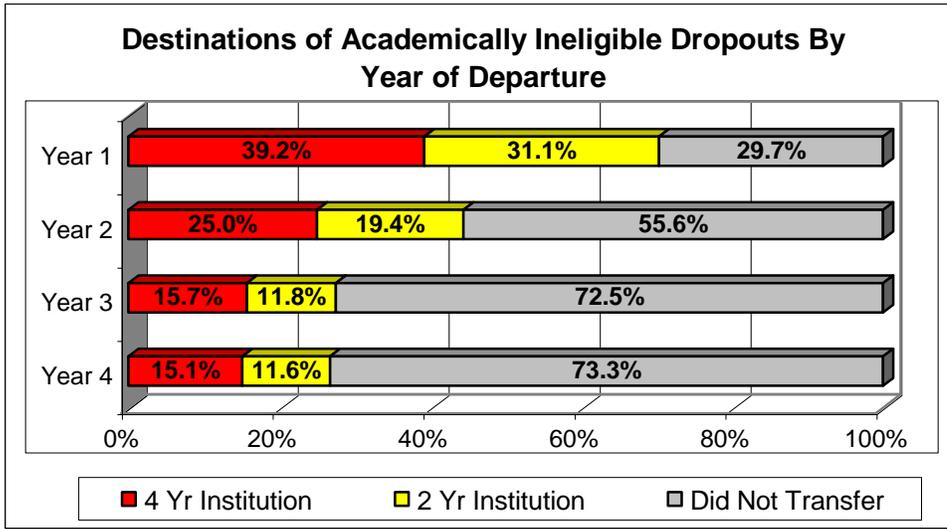
**Figure 3**



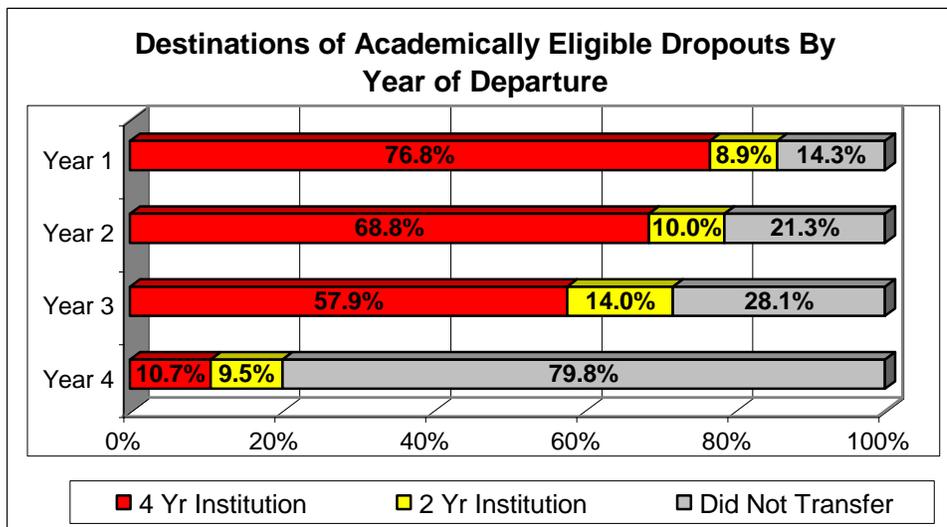
Whether dropouts transferred to another four year institution, enrolled at a two year institution, or did not enroll anywhere else was related to: (1) their academic eligibility status following the last term of enrollment at Carolina, and (2) the point at which they terminated their studies at Carolina. Students who were ineligible at the time of their departure were very unlikely to transfer to another institution after the freshman year. In contrast, the majority of those who left academically eligible to return transferred to another four-year institution. Few of the students who dropped out after the junior year enrolled anywhere else, regardless of eligibility status. This possibly indicates an intention to return to Carolina to finish their degrees at a later date.

There were no differences between in-state and out-of-state residents in the percentage who transferred to another institution. However, the majority of all transferring students subsequently enrolled at institutions close to their homes. As shown in Table 5, most North Carolina residents enrolled at another school in the state, two-thirds of them within a short distance of the high schools they attended. About three-fourths of the non-residents transferred to a school in their home state or a nearby state. After leaving Carolina, 35% of minority students enrolled at a historically minority institution.

**Figure 4**



**Figure 5**



**Figure 6**

<b>Location of Transfer Institution</b>		
	<b>Anywhere in North Carolina</b>	<b>Close to Home*</b>
<b>NC Residents</b>	86.4%	63.2%
<b>Non-Residents</b>	4.8%	75.0%

*\*Definition of "close to home":*

*NC Residents - same county or a county in the same part of the state as their high school.*

*Non-Residents - same state or a state bordering the state where they attended high school.*

# Factors Related to Retention and Graduation for the 1997 and 1998 Cohorts

One of the major objectives of this study was to learn how various factors affect the likelihood that a student will successfully complete his or her program and graduate from Carolina. The variables selected for use in this study are defined in detail in Appendix B.

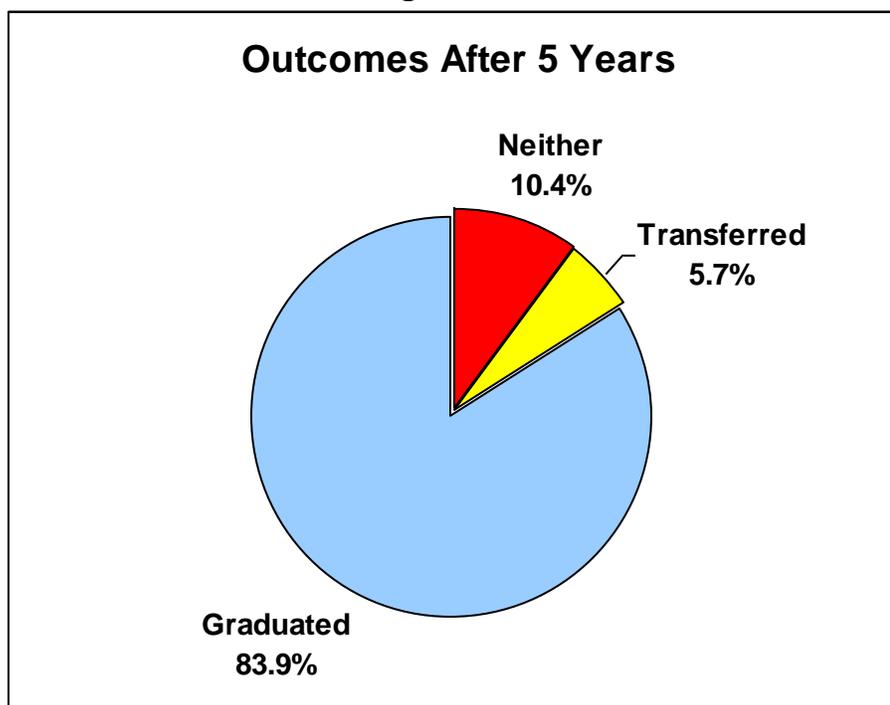
Studies of retention and graduation vary considerably in terms of the period of observation chosen and how non-continuing students are defined and classified. To simplify this analysis, the following decisions were made:

**Period of observation:** Since there were only five full years of observations for the 1998 cohort, the 1997 class was censored at the end of the fifth year following initial enrollment in order to use combined data from both cohorts.<sup>2</sup>

**Outcome groups.** For purposes of comparison, students were classified as falling into one of the three outcome groups at the end of the fifth year (see Figure 7):

- **Graduated (N=5,736):** Received degree from Carolina within five years of entry.
- **Transferred (N=392):** Dropped out of Carolina before receiving a degree and subsequently enrolled in another four-year university.
- **Neither (N=713):** Did not complete a degree from Carolina or transfer to another four-year university within five years of entry. Includes students still enrolled at Carolina, enrolled at a two year institution, or not enrolled anywhere.

Figure 7



<sup>2</sup> Only 51 students in the 1997 cohort graduated during the sixth year.

## Demographic Characteristics

Consistent with patterns reported in national studies, graduation rates for first generation college students were significantly lower than those of students with at least one parent who had earned a college degree (see Table 5 below). Another finding that mirrors existing research on college student outcomes is that graduation rates for underrepresented minorities were lower than those of White and Asian students. Only small differences were noted in graduation rates by sex, “legacy” status, and residency. The percentages of students who transferred to another four-year institution differ very little across demographic characteristics.

		<b>Graduated</b>	<b>Transferred</b>	<b>Neither</b>
<b>Sex</b>	Female	85.3%	5.9%	8.8%
	Male	81.5%	5.4%	13.1%
<b>Race</b>	Minority (African American, Native American, Hispanic)	71.3%	6.7%	22.0%
	Majority (White and Asian)	85.9%	5.6%	8.5%
<b>Legacy</b>	Legacy	89.1%	4.5%	6.5%
	Not Legacy	82.9%	6.0%	11.1%
<b>Residency</b>	In-State	83.4%	5.5%	11.1%
	Out-of-State	86.0%	6.8%	7.2%
<b>Parent Education</b>	HS Grad or Less	72.9%	8.7%	18.4%
	Some College	77.9%	6.6%	15.6%
	4 Year College Grad	84.7%	5.7%	9.6%
	Grad/Prof Degree	88.7%	4.5%	6.8%

## Financial Resources

There were considerable differences in the retention and graduation outcomes of students when compared by financial status (see Table 6). Again, these findings are consistent with the overwhelming majority of studies suggesting that low income students do not persist and graduate at the same rates as other students. As shown in the table below, students in the higher income ranges were much more likely to graduate from Carolina than those with lower family income.

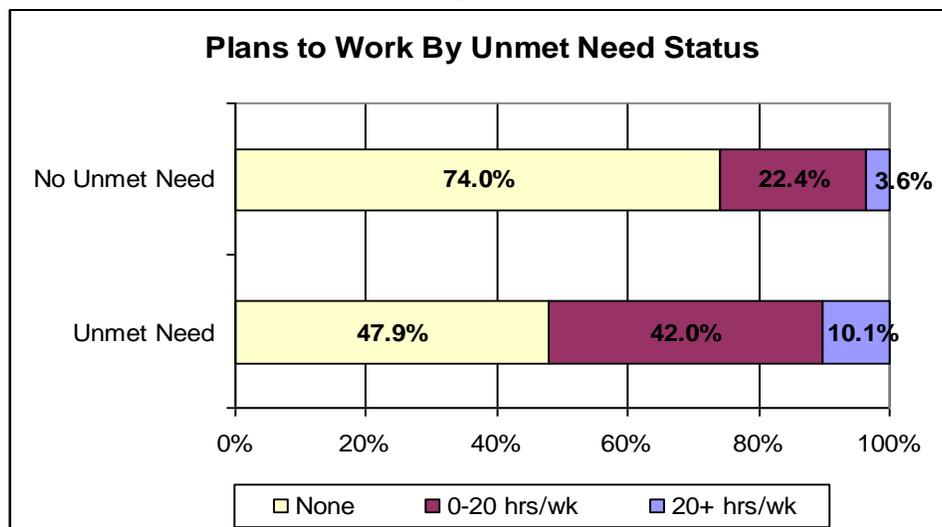
Students who had demonstrated financial need were somewhat less likely to graduate, regardless of the amount of need received. Those with unmet need of \$1,000 or more were more likely to transfer to another institution or fall into the category of students who neither transferred nor graduated from Carolina within five years. Since the Office of Scholarships and Student Aid funds 100% of need for all qualified aid applicants who apply on time, having unmet need indicates that the student either rejected offers of loans or applied late for financial aid.<sup>3</sup>

<sup>3</sup> For a number of years, the Office of Scholarships and Student Aid has adhered to their policy of funding 100% of demonstrated financial need for students who apply by the stated deadline each year. Typically, about 30% of student aid applicants file late, and while efforts are made to meet as much of their need as possible with remaining resources, some of them cannot be funded at 100% of their need. Students may also turn down awards that would have met all of their need. This occurs most often with loans and work study awards.

		<b>Graduated</b>	<b>Transferred</b>	<b>Neither</b>
<b>Family Income</b>	< \$30,000	71.7%	7.3%	21.0%
	\$30,001-\$75,000	81.9%	6.0%	12.1%
	\$75,001-\$100,000	84.5%	5.7%	9.7%
	\$100,000+	89.9%	4.8%	5.3%
<b>Had Financial Need</b>	Yes	77.9%	6.5%	15.6%
	No	86.7%	5.4%	8.0%
<b>Total Need</b>	Mean	\$1,961	\$2,596	\$3,633
<b>Unmet Need \$1,000+</b>	Yes	71.3%	8.9%	19.8%
	No	85.3%	5.4%	9.3%
<b>Concern about finances</b>	Major	69.9%	11.7%	18.4%
	Some or None	86.4%	5.0%	8.5%
<b>Plans to work freshman year</b>	20+ hrs/week	66.1%	7.6%	26.3%
	< 20 hrs/week	82.0%	5.7%	12.4%
	Not at all	87.4%	5.1%	7.5%

Students with major concerns about financing college and those who planned to work 20 or more hours per week were significantly less likely to graduate than other students. Although these variables were derived from student self-reports<sup>4</sup>, they were significantly correlated with other data from official records. For example, three-fourths of the students with major concerns about paying for college were in the lower and lower middle income levels, compared to a little over a quarter of the students who expressed minor or no concerns. In addition, students were more likely to say that they planned to work more than 20 hours per week if they had actual unmet need (see Figure 8). This provides some support for the concern that some students will choose to work off-campus instead of accepting loans or a work study position that does not pay as much as off-campus work.

**Figure 8**



<sup>4</sup> The data on concern about financing college were derived from an item on The Cooperative Institutional Research Program at UCLA (CIRP) Freshman Survey. The “plans to work” item came from the UNC Office of the President Freshman Survey.

## Academic Preparation Indicators

The three outcome groups differed significantly on indicators of academic preparation at the time of entry to Carolina. For the most part, Carolina graduates demonstrated a stronger academic background than those who transferred to another institution, and in turn, the transfers displayed stronger credentials than those who neither graduated nor transferred, as shown in Table 7.

		Graduated	Transferred	Neither
<b>SAT Verbal</b>	Mean	615	597	588
<b>SAT Math</b>	Mean	618	599	589
<b>SAT Total</b>	Mean	1233	1196	1177
<b>High School GPA</b>	Mean	4.05	3.96	3.78
<b>Grades Rating</b>	Mean (5-point scale)	3.91	3.80	3.42
<b>Converted HS Class Rank</b>	Mean	65.9	65.1	63.0
<b>Course Difficulty Rating</b>	Mean (5-point scale)	3.50	3.22	3.10
<b>AP, By-Exam, &amp; Placement Credits</b>	Mean	8.43	5.34	4.28
	No credits	77.3%	7.7%	15.0%
	1 or more credits	86.9%	4.8%	8.8%
<b>School Factor</b>	Mean (5-point scale)	3.20	3.02	2.99
<b>High School Small/Rural</b>	Yes	81.4%	6.2%	12.4%
	No	85.7%	5.4%	8.9%
<b>Had to Take Math 10</b>	Yes	77.9%	6.7%	15.4%
	No	85.6%	5.4%	9.0%

## Social Integration

Only a few indicators of social integration could be constructed from existing data on students in the 1997 and 1998 cohorts.<sup>5</sup> The three variables listed in Table 8 can be considered at best indirect measures of student connections to the academic and social life of the campus. The variable measuring whether Carolina had been the first choice of colleges for the cohort members was used as a proxy for initial commitment to the campus.<sup>6</sup> No appreciable differences in graduation rates seem to be linked to this variable. Involvement in a Greek organization or an athletic team was thought to suggest social integration. However, comparisons of the graduation rates of participants and non-participants in Greek life or athletics

<sup>5</sup> Subsequent cohorts have been participating in the National Survey of Student Engagement, which will result in data on a wide variety of student experiences that have been empirically linked to student success.

<sup>6</sup> This variable was derived from identical items on the Cooperative Institutional Research Program at UCLA (CIRP) Freshman Survey and the UNC Office of the President Freshman Survey that asked whether the institution the student is attending was the first, second, third, fourth or lower choice of colleges.

are probably not meaningful without controlling for other factors such as socio-economic factors (concerning Greek involvement) and other variables.

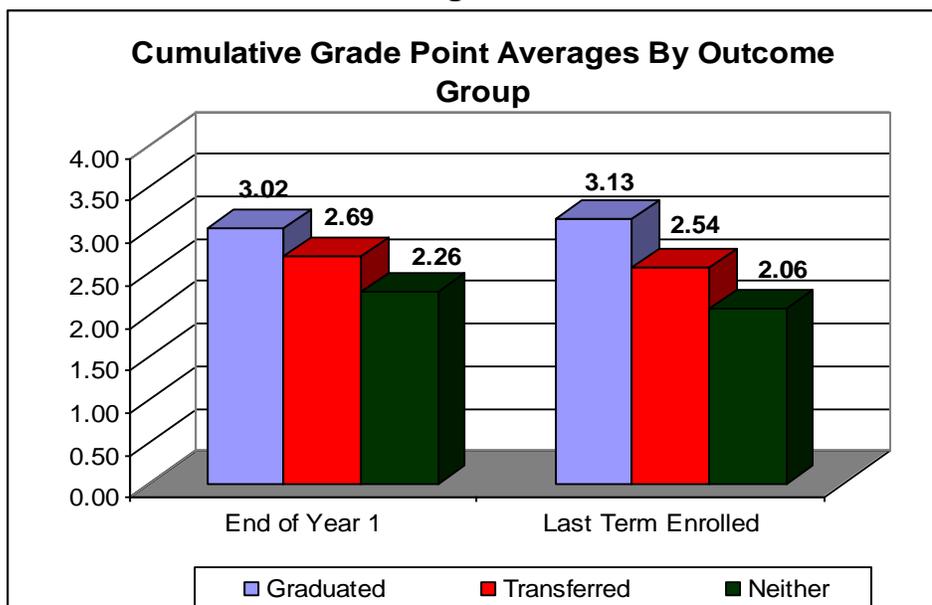
		<b>Graduated</b>	<b>Transferred</b>	<b>Neither</b>
Carolina Was 1 <sup>st</sup> Choice	Yes	85.5%	5.5%	9.1%
	No	83.3%	5.4%	11.3%
Fraternity/Sorority Member	Yes	91.9%	2.0%	6.1%
	No	81.3%	6.9%	11.8%
Athlete	Yes	73.5%	11.0%	15.5%
	No	84.4%	5.5%	10.2%

### Academic Performance

Academic performance, as measured by cumulative grade point average, has a strong relationship to retention and graduation outcomes. As shown in Figure 9 below, significant differences were found between the three outcome groups on cumulative grade point average at the end of year one and at the end of the last semester enrolled. Students who graduated had higher grade point averages at each point than those who transferred, who in turn had higher grade point averages than those who had neither transferred nor graduated at the end of five years. It is also notable that the average grades of those who graduated increased slightly between the end of year one and the last term enrolled, while the grades of the other two groups dropped. The relationship between grades and retention can also be viewed in terms of grade point average intervals. Table 9 below suggests that students who earn first year grades that average less than 2.000 are at considerable risk for not graduating.

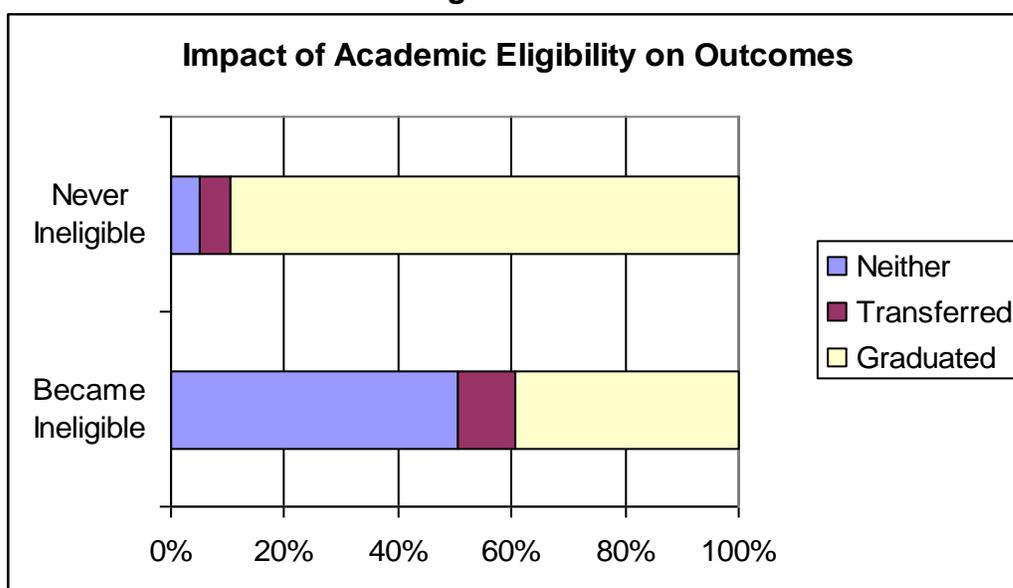
Approximately 11.8% of all students in the two cohorts observed became academically ineligible at least once during their enrollment at Carolina, and the impact of this event on graduation outcomes is depicted in Figure 9 below. Of those who became academically ineligible even once, only 39.5% graduated within five years. In comparison, the five-year graduation rate of those who never become ineligible was almost 90% (see Figure 10).

**Figure 9**



	<b>Graduated</b>	<b>Transferred</b>	<b>Neither</b>
<b>&lt; 1.500</b>	14.7%	25.6%	59.7%
<b>1.500 – 1.999</b>	54.9%	9.6%	35.5%
<b>2.000 – 2.499</b>	75.9%	5.7%	18.4%
<b>2.500 – 2.999</b>	86.7%	5.1%	8.2%
<b>3.000 +</b>	93.1%	4.2%	2.7%

**Figure 10**



### **Academic Intensity**

Continuous, full-time enrollment is related to graduating from Carolina within five years, as shown in Table 10. Approximately 8.7% of all students in the two cohorts stopped out for one or more semesters, but returned for at least one term. Only 47% of students who stop out graduate within five years, compared to 87% who enroll every term.

Carolina’s policies generally discourage part-time enrollment of degree candidates. Students who want to take less than 12 hours in a given semester must file a petition and receive formal approval unless they need less than a full load to graduate at the end of that term. Table 10 indicates that 47% of those who enrolled for less than 12 hours more than once graduated within five years, compared to 86% of those who carried full loads.

Hours earned as a percentage of hours attempted is a measure of efficiency in completing degree requirements. A low percentage suggests that a student might be struggling academically – failing courses and dropping courses in which they are doing poorly. Table 10 suggests that a lower percentage of hours earned is associated with reduced graduation rates.

<b>Table 10 Academic Intensity and Five Year Outcomes</b>				
		<b>Graduated</b>	<b>Transferred</b>	<b>Neither</b>
Ever Stopped Out	Yes	46.7%	4.9%	48.4%
	No	87.4%	5.8%	6.8%
Enrolled part-time more than 1 term	Yes	46.5%	10.5%	43.0%
	No	86.2%	5.4%	8.4%
Percentage of Attempted Hrs Earned	0-95%	62.2%	11.7%	26.2%
	95-100%	87.9%	4.6%	7.5%

## What Matters Most?

The descriptive statistics on the 1997 and 1998 cohorts reveal relationships that are consistent with much of the research on correlates of retention and graduation. However, students enter Carolina with many different combinations of backgrounds, aptitudes, and personal characteristics that in turn interact with institutional variables and even chance events to influence the probability of graduating. Knowing that certain individual variables are strongly related to graduation outcomes is helpful, but observing how different factors work in combination to increase or decrease students' chances of graduating from Carolina is more informative and more closely mirrors reality.

Multivariate statistical analyses<sup>7</sup> were conducted to determine how well variables measuring demographics, financial resources, academic preparation, academic/social integration, academic intensity, and academic performance at Carolina jointly predicted graduation outcomes. The advantage of multivariate analysis is that the results permit making inferences about the effects of individual variables on graduation outcomes after controlling for other variables that might also exert important influences on the relationship. For example, Table 5 indicates that minority students in the 1997 and 1998 cohorts were less likely than majority students to graduate within five years. Controlling for other factors related to graduation, such as academic background and family income, provides insight into whether minority status has a unique impact on graduation rates or if it is simply correlated with or even serving as a proxy for other factors that put students at risk for not graduating.

Many of the individual variables used in this study as predictors of retention and graduation are correlated. For example, students from low-income families tend to qualify for student aid and are more likely to have concerns about financing college. In order to avoid statistical problems in the multivariate analysis caused by including variables that are highly correlated, the following composite variables were developed<sup>8</sup>:

- **“Financial Resources”** -- family income, financial need, concerns about financing college, and plans to work.

<sup>7</sup> Since the outcome variable of interest is categorical, multinomial logistic regression techniques were used. Details of the analysis are available upon request.

<sup>8</sup> Composite variables were constructed using principle component analysis. Details are available upon request.

- **“Strength of High School Curriculum”** – high school course difficulty ratings, SAT Total, high school quality ratings, rural/small high school, AP/Placement/By Exam credits, need to take Math 10.
- **“High School Grades”** – ratings of high school grades, high school grade point average, high school class rank.

## Factors that Predict Transferring to Another Four-Year Institution

The results of the multivariate statistical analysis (see Appendix \*\*\*) indicated that the following factors significantly increased the probability of transferring to another four-year institution as opposed to graduating from Carolina, after controlling for all other variables in the model:

- **Asian or White.** The results indicated that the probability of transferring for Asian and White students was 2.5 percentage points higher than for African American, Native American, and Hispanic students.
- **Non-North Carolina resident.** The probability of transferring for non-North Carolina residents was 2.5 percentage points higher than for North Carolina residents.
- **Weaker high school curriculum.** Students who transferred were significantly more likely to have been in the lower rather than upper quartiles on the composite variable that measured strength of high school.
- **Not participating in a fraternity/sorority.** Those who were not members of a fraternity or sorority were 11.2 percentage points more likely to transfer than Greek members.
- **Low freshman year GPA.** Students whose first year GPA was less than 2.00 had a predicted probability of transferring that averaged 18.7 percentage points higher than students who earned a 3.0, the mean GPA. The probability of transferring for students whose GPA fell into the 2.00 - 2.49 range was 2.3 percentage points higher than those with a 3.0 or better GPA.
- **Taking part-time loads.** For students who enrolled for less than 12 hours more than one term, the probability of transferring was nearly 10 percentage points higher than students who carried full loads consistently.
- **Passing fewer than 95% of credit hours attempted.** The probability of transferring is increased by 4 percentage points for students whose earned hours are less than 95% of their attempted hours.

Although it appears that on average students who transferred struggled somewhat with their academic work at Carolina, this group was significantly more successful than the group that neither graduated nor transferred. The fact that 83% of the transferred students were academically eligible at the end of their last term (compared to only 59% of those who did not graduate or transfer) suggests that non-academic factors also played a role in their decisions to enroll to complete their degrees elsewhere. For whatever reasons, the transferred students had been less engaged in the academic and social life of the campus than those who graduated – they had more terms of part-time enrollment and fewer had participated in fraternities or sororities in comparison to those who graduated.

To better understand students’ perspectives on the issues that led to their decisions to leave Carolina and transfer to another institution, a survey was administered to a sample of former students who were traced to other four-year institutions. The following themes were most prominent in their responses (N=98).

**Feeling insignificant and lost in a large, impersonal environment.** Over three-quarters of the respondents indicated that they had found it difficult to overcome issues related to the size of Carolina. Many mentioned the size of the classes and concerns that they were “only a number” to faculty. Similar sentiments were expressed about the availability of advisors or other administrators to help them work through problems that arose. As one student remarked, “The main reason I left Carolina was because I got the impression that the school did not care about my well-being, be it academic-, career- or health-wise.” Another student stated, “I found that having never attended a large university and not coming from college graduate parents, I was at a huge disadvantage finding who to contact for what, when, and where.”

**Family and personal problems.** Many students indicated that family situations, other relationships, and health concerns forced them to move closer to home. “With the factors of living far from home and the campus being so overwhelming, I became easily depressed and this severely affected my studies,” said one student.

**Lack of “fit” with other students.** Some students described finding other Carolina students to be unfriendly, too liberal, or overly interested in material possessions. Several out-of-state students commented on the difficulty of becoming integrated into the largely in-state student body. Said one student, “Many {students} came to UNC with a set group of friends, making the social situation semi-homogeneous and a bit cold.”

**Majors and changes in interests.** Although not mentioned as often as some of the other themes, a number of students indicated that leaving Carolina was part of a process of discovering their true interests and going elsewhere to pursue them. One student stated that, “Carolina is not a good place to be if you don’t know what you want to do.” Others had identified specific majors or career paths that Carolina did not offer, such as engineering and criminal justice, and transferred to other schools that could help them achieve those goals.

Felt insignificant, lost, or out-of-place.	72.9%
Did not like Carolina in general.	63.5%
The University seemed too large and impersonal.	57.3%
Moved to be closer to family or significant other.	55.2%
Could not relate to the values and attitudes of most Carolina students.	50.0%
Not enough direct contact with faculty.	50.0%
Was disappointed in the quality of teaching at Carolina.	46.9%
Could not get the academic advice I needed.	46.9%
Social life was unsatisfactory.	46.3%
Too few faculty and administrators with whom I could identify.	43.8%

\*Note: Respondents could choose all reasons that applied.

When asked what Carolina might have done to prevent them from transferring, the most frequent response was “nothing.” As one student remarked, “Carolina is a great place, but it just wasn’t for me.” Another stated that the characteristics of the campus that were unsatisfactory could not be easily changed or remedied, most specifically the sheer size of the institution and the “factory-like” way in which a very large organization functions. Others indicated that the situations that led to their transfer were so individual or personal in nature that the University could not have made any difference in their decisions to leave. When students did point to specific efforts that could have influenced them to stay at Carolina, the typical response involved more available, approachable, and personable instructors and counselors/advisors. “Act like you care about me,” as one student suggested.

Respondents were also asked to recommend actions that Carolina could take to improve retention. The most frequent recommendation was to reduce class size. A number of students shared experiences that reflected the alienating effects of large classes where interacting with or even being recognized by the instructor was unlikely. The second most common suggestion was increasing the availability of staff for advising, personal and academic counseling, and major/career choices.

## Factors that Predict Not Graduating Or Transferring within Five Years

The following factors significantly increased the probability that a student would neither graduate nor transfer to another four-year institution instead of graduating from Carolina within five years, after controlling for all other variables in the model:

- **No parent with a college degree.** Students who had no parent who had earned a four-year degree were 3.3 percentage points more likely not to graduate or transfer than students with parents who were degree holders.
- **Low income.** The probability of not graduating or transferring was 7 percentage points higher for students in the bottom two quartiles of the financial resources composite variable.
- **Did not participate in fraternities or sororities.** Not being in a Greek organization resulted in a probability of not graduating or transferring that was 8.2 percentage points higher than fraternity/sorority members.
- **Carolina was not first choice for college.** Those who indicated on the freshman survey that Carolina was not their first choice of colleges were 2.5 percentage points more likely not to graduate or transfer than those for whom Carolina was the first choice.
- **Lower first year grades at Carolina.** Compared to students at or above the mean first year GPA of 3.0, the probability of not graduating or transferring was 34 percentage points higher for those who earned less than a 2.0 GPA. For those whose GPAs fell in the 2.00 -2.49 and the 2.50 – 2.99 ranges, the probabilities were 20 and 13 percentage points higher, respectively, compared to those with a 3.0 or higher.
- **Became ineligible at least once.** Students who became ineligible were 29 percentage points more likely to not graduate or transfer, compared to those who had never been ineligible.
- **Stopped out more than once.** Stopping out was a significant predictor of not graduating or transferring, increasing the likelihood by 28 percentage points.
- **Enrolled part-time more than once.** Students who enrolled part-time in more than one term were about 15 percentage points more likely to fail to graduate or transfer than those who enrolled full-time.
- **Passing fewer than 95% of credit hours attempted.** The probability of transferring is increased by 2.4 percentage points for students whose earned hours are less than 95% of their attempted hours.

## Student Perspectives on Reasons for Not Graduating

To better understand student perspectives on reasons for not graduating, a sample of students who had entered as freshmen five or more years earlier were surveyed concerning issues that had delayed or prevented degree completion. Some of the sampled students were still enrolled on campus, others were ineligible and attempting to regain eligibility through off-campus coursework, and others were no longer enrolled. Over 90% of the respondents indicated that they planned to complete their degrees at Carolina at some point. Table 12

below summarizes the frequency of the reasons cited by the seventy respondents to this survey.

Changed major	61.8%
Had to withdraw or reduce courseload	50.0%
Had to work while enrolled	47.1%
Courses needed to graduate not always available	39.7%
Unable to focus sufficiently on academics	39.7%
Repeated courses to make better grades	38.2%
Uncertainty about career goals	36.8%
Had to regain academic eligibility	33.8%
Fulfilled requirements for more than one major/concentration	32.4%
Felt no pressure to finish	32.4%
Insufficient guidance in selecting a major	25.0%
Took additional courses for interest	25.0%
Did not enroll for one or more semesters to earn money	25.0%
Inaccurate information from advisor about graduation requirements	23.5%
Family responsibilities	23.5%
Other	19.1%
Participated in internship, independent study, study abroad	16.2%
Took light loads to keep GPA high	11.8%
Athletics and/or extracurricular activities required a lot of time	11.8%
Insufficient financial aid	5.9%

\*Respondents could check all that applied.

Most students indicated that there were multiple reasons for not having completed their degrees during the five years. While “changed major” was the most frequently cited reason, the reasons ranked as **most important** were, in this order: **(1) Had to withdraw or reduce coursework, (2) Had to regain academic eligibility, and (3) Changed major.**

The reasons given by the students were intercorrelated in somewhat predictable ways. The items clustered into several themes, described as follows:

**Academic Problems:** Had to regain academic eligibility, needed to repeat courses to get a better grade, unable to focus on academics, family responsibilities, insufficient guidance in selecting a major.

**Financial Issues:** Had to withdraw or reduce courseload, had to work while enrolled, did not enroll for one or more semesters to earn money, family responsibilities.

**Expanding interests:** Took additional courses for interest, fulfilled requirements for more than one major, took light loads to keep GPA high.

**“Not my fault”:** Inaccurate information from advisor about graduation requirements, courses needed to graduate not always available, insufficient guidance in selecting a major.

## **Student Explanations for Academic Ineligibility Problems**

It was also of interest to learn how students who had become academically ineligible viewed the factors that had led to these difficulties. A content analysis was conducted of a random sample (n=60) of letters of appeal filed by students who were seeking waivers of eligibility requirements during the 2003-04 academic year. The most striking similarity across the letters reviewed was that becoming ineligible was the end result of several events or circumstances over time that the student was unable to manage effectively. These issues tended to involve a mix of academic, personal, and financial factors. The factors mentioned differed depending on the age of the student. These issues are described below in order of frequency, although most students offered more than one reason for their difficulties:

- **Family problems and responsibilities:** Over half of all appeals described how deaths and serious illnesses of family members had distracted them from their studies and at times resulted in their withdrawal from the University. Several of these students described situations in which they had primary responsibility for taking care of family members following a crisis back home.
- **Work:** A third of juniors and seniors who appealed indicated that they had worked excessively due to lack of family support, and sometimes needed to help support their families who had fallen on hard times such as a job layoff. One student added that he had to work to provide basic support for himself, but also “to keep up with the richness of this place.” About a quarter of freshmen and sophomores also reported that having to work for pay had taken time away from their studies.
- **Mental health issues:** A large number of appeals referred to a diagnosis of clinical depression and/or attention deficit disorder as a contributing factor to the student’s academic difficulties or lack of progress in accumulating the required number of credit hours. The percentages were higher among freshmen and sophomores than among upperclassmen.
- **Adjusting to the Carolina campus:** In addition to feelings of homesickness and distress over being on their own for the first time, many freshmen and sophomore students reporting having trouble adapting to the size and impersonal feeling of the campus. One student described herself as “a small town girl in a large university.” Several stated that they had felt academically or socially “inferior” to other students here. “I felt like I wasn’t good enough for Carolina,” as one student put it.
- **Self-management:** A number of the students who appealed attributed their academic problems to lapses in judgment, lack of maturity, time management problems, and other personal mistakes that they had since recognized and were attempting to improve. Freshmen and sophomores frequently commented that they had not anticipated the difference in the amount of effort required to be successful in college compared to high school. As one student said, “I didn’t believe I could fail.”
- **Lack of awareness/use of support services:** About 20% of the appeals indicated that students had not been aware of or had failed to use academic support services that might have helped them. Underclassmen sometimes reported that they were “ashamed” to admit that they were struggling academically or personally, and did not seek help from TA’s or professors in a timely manner.
- **Physical illnesses.** Freshmen and sophomores were considerably more likely than upperclassmen to report that illness had interfered with their academic progress.

- **Academic difficulty in the major:** Upper level students reported that their ineligibility was the result of failing multiple courses in their desired majors. One student described that he had tried to major in a science area but did not have the aptitude for that subject and now realized that he would need to change his major. He reported that as a high school valedictorian, it had been a hard to admit that he could not “cut it” in his chosen major and consequently his cumulative grade point average suffered in the process. Appeals from other students undergoing similar struggles with courses in their majors did not suggest that they recognized the source of their difficulties. For example, a computer science major who had consistently earned poor grades in those courses, retaking many of them with little improvement, focused her letter of appeal on one failing grade in a language course without addressing her performance in computer science.

	<b>Freshmen and Sophomores</b>	<b>Juniors and Seniors</b>
Family problems and responsibilities	55%	50%
Mental health issues	42%	32%
Adjusting to the Carolina campus	35%	0%
Work	23%	33%
Self-management	43%	25%
Lack of awareness/use of support services	20%	18%
Physical illness	20%	7%
Academic difficulty in chosen major	0%	14%

In reviewing the appeals from juniors and seniors, it was noted that a number of these students had become academically ineligible for the first time. An examination of their transcripts revealed three different patterns:

- A consistent record of low grades that had kept them just at or slightly above the academic eligibility requirements up until this point. Since current eligibility regulations do not require a 2.0 grade point average until the senior year, these students found themselves in the position of having to make a lot of very high grades to sufficiently increase the ratio of quality points to hours attempted.
- A satisfactory General College record followed by a series of poor grades in their chosen major which brought their cumulative grade point average down. This pattern was consistent with anecdotal information offered by academic advisors that some students continue to pursue science majors without success to the point of ineligibility, often accompanied by perceived family pressure, for example, to be the first in their families to become a physician, etc.
- A sudden decline in overall performance during the junior/senior years, perhaps tied to non-academic issues that became worse as the student attempted to continue enrollment.

## Analysis of Summer Bridge Program Participants

As a follow-up to the findings of the statistical analyses reported here that confirmed the importance of academic performance and engagement in the first year for retention and subsequent graduation, an analysis of outcomes for the Summer Bridge Program participants was conducted. The goal of the Summer Bridge Program at Carolina is to help participants make the transition from high school to college in a rigorous, seven-week academic program with low student-to-faculty/staff ratios. The program targets incoming freshman students from small/rural high schools in North Carolina that may lack AP or other college preparatory courses to take college-level English and math courses and attend workshops that introduce them to various campus resources. Upon completion of Summer Bridge, students can earn up to 6.0 academic credit hours, and they face the Fall semester equipped with the successful academic strategies that Bridge models. Perhaps even more important is the opportunity the program gives students to gain confidence in getting around on a large campus, talking to faculty, and engaging in small group activities before they become engulfed by the thousands of other students and pressures of the first fall semester.

Summer Bridge participants in the 1997 and 1998 cohorts were compared to a sample of other cohort members who possessed similar demographic and academic characteristics. There were statistically significant differences between the participants and non-participants on two major outcomes:

- **Academic Performance:** After controlling for the academic, socio-economic, and other variables used in the previous analyses, Summer Bridge participants were 2.6 times less likely than the non-participant group to ever become academically ineligible.
- **Graduation within Five Years:** Over 72% of Summer Bridge participants graduated within five years compared to 62% of non-participants with similar entry characteristics.

It is possible that Bridge program participants differed initially from non-participants on characteristics that would predict retention which could not be controlled for here, such as motivation or family encouragement. However, it is also probably the case that the program provides difficult-to-measure non-academic benefits such as social integration and other forms of engagement with the campus that support later academic success.

## Academic Policies and Procedures that Impact Student Retention and Graduation

The results of the statistical analysis of factors that predicted graduation for the 1997 and 1998 cohorts provided considerable evidence of the negative impact on graduation outcomes of becoming academically ineligible, stopping out, and enrolling for less than a full courseload. As a follow-up, the Retention Study Working Group examined in detail Carolina's academic eligibility policies and those of its ten public peer institutions to consider the effectiveness of these practices in promoting student success. The tables in Appendix D and Appendix E display institutional variations in policies concerning minimum term and cumulative grade point average requirements, consequences of failure to achieve the standards, and drop policies.

## Academic Eligibility

A major factor in the retention and graduation of all students is the extent to which they remain in good academic standing, and continue to make progress toward satisfying the requirements for earning a degree. The University expects all students to perform to the best of their abilities; however, every student must meet a set of minimum academic standards to continue his enrollment at the University. At the present, the following standards represent the minimum requirements at Carolina.

### Minimum Eligibility Standard for Any Semester

Students must earn at least a 1.00 grade-point average and pass at least nine academic hours in any semester. If not, they will undergo "Academic Review." This is true of all students, including first semester first year students. Students not meeting this requirement must have their records reviewed by their academic dean or an appeals committee of the school or college in which they are enrolled. In some cases, first semester students will be declared academically ineligible and will be unable to continue their studies after just one semester.

**Peer Comparison:** *The minimum grade point average required at Carolina for any single term is lower than all institutions in the peer group. Only two other institutions have minimum term requirements of less than a 2.000: UC-Berkeley at 1.500 and the University of Virginia at 1.800 with 12 hours passed and no more than one grade less than C-. Special rules that apply to first semester freshmen who earn less than a 2.000 were reported at three institutions:*

- *University of Illinois – student may return but are on probation and must earn a 2.0 in the next semester to continue.*
- *University of Michigan – student may continue to the next semester without penalty.*
- *University of Washington – student receives an academic warning.*

### Academic Warning Notification

Students who are not making acceptable academic progress at the end of the first, third, fifth, and seventh semesters-in-residence are considered on "Academic Warning." This status carries no academic penalty and is not entered on permanent records; its purpose is to serve as a notice to students that they increase their grade point averages or credit hours by the end of the following semester or be declared academically ineligible. Students receive an academic warning if after:

- the first semester-in-residence they have not earned at least a 1.500 cumulative grade-point average and passed 12 academic semester hours (cumulative) of course work;
- the third semester-in-residence they have not earned at least a 1.750 cumulative grade-point average and passed 36 academic semester hours (cumulative) of course work;
- the fifth semester-in-residence they have not earned at least a 1.900 cumulative grade-point average and passed 63 academic semester hours (cumulative) of course work;
- the seventh semester-in-residence they have not earned at least a 2.000 cumulative grade-point average and passed 90 academic semester hours (cumulative) of course work.

**Peer Comparison:** *All other institutions require a cumulative grade point average of 2.000 to be maintained continuously, with the exception of the University of Virginia which requires a 1.800 minimum cumulative grade point average. The consequences of failing to*

*achieve the minimum average vary, but nearly all institutions place the student on probation for the next term with specific levels of improvement mandated to avoid dismissal.*

### **Cumulative Academic Eligibility Standards**

A student must meet the following minimum requirements to remain in “good standing” and be eligible to continue their enrollment without disruption.

- A. a 1.500 cumulative grade-point average and 24 academic semester hours passed (cumulative) to begin the third semester-in-residence;
- B. a 1.750 cumulative grade-point average and 51 academic semester hours passed (cumulative) to begin the fifth semester-in-residence;
- C. a 1.900 cumulative grade-point average and 78 academic semester hours passed (cumulative) to begin the seventh semester-in-residence;
- D. a 2.000 cumulative grade-point average and 105 academic semester hours passed (cumulative) to begin the ninth semester-in-residence.

Except for degree programs that require enrollment beyond a ninth semester, permission to enroll in a tenth semester must be obtained in advance from the college or school in which the student is enrolled.

**Peer Comparison:** *All other institutions require a cumulative grade point average of 2.000 to be maintained continuously, with the exception of the University of Virginia which requires a 1.800 minimum cumulative grade point average. The consequences of failing to achieve the minimum average vary, but nearly all institutions place the student on probation for the next term with specific levels of improvement mandated to avoid dismissal.*

### **Implications of Academic Eligibility Policies on Retention**

- At Carolina, first year students completing just one semester can be declared academically ineligible and must sit out of school for at least one semester. This can lead to problems of self-esteem that may have an overall impact on the student’s confidence in being able to graduate. In addition, students in the 1997 and 1998 cohorts who became ineligible but stayed continuously enrolled graduated at twice the rate of those whose enrollment was disrupted.
- An academic warning is issued to students who are not making acceptable academic progress. While this notation carries no penalty, currently there are insufficient human resources to assertively address and follow-up with these students to encourage them to take advantage of services that might support their success.
- Carolina’s grade point average requirements that allow a minimum of 1.500 at the end of the first year and progress to a 2.000 for graduation create challenges for students who maintain only minimum progress to remain academically eligible over a period of eight or nine semesters and qualify for graduation within four or five years. The review of transcripts of students who became academically ineligible for the first time as juniors or seniors revealed that many of these students exhibited a pattern of low but acceptable

grades in the first and second years but were unable to keep raising their averages as the minimum requirements moved to 1.750, 1.900, and then 2.000. In addition, results of the analysis of the 1997 and 1997 cohorts indicated that students whose first year grade point average is between 1.500 and 2.000 have only a 55% chance of graduating within five years, compared to 88% of those who complete the year with a 2.000.

## **Early Warning Initiatives**

The current early warning system attempts to identify first year students who are making grades of less than "C" in a course(s) by the end of the fourth or fifth week of the fall or spring semester. This feedback makes students aware that they are not succeeding at the expected levels, and provides academic advisors with useful information to assess their advisees' semester course loads. Information from these reports is used to make referrals to various academic resources and services, and to help determine if a student would benefit by reducing his/her semester course load.

Around week four in the semester, a memorandum is sent to all instructors who teach first year students requesting information about students' academic progress. In many cases by the fourth or fifth week, instructors report not having any grades to report on their students' academic performance. While no actual data exist to report how many faculty members return progress reports, anecdotal evidence indicates that some very large lecture courses with high failure rates do not respond to this request for assistance in identifying these students.

Mid-term grades (temporary grades) are reported in the fall semester for first year students. This information provides students with feedback about their actual class performance and can be helpful and useful information for students and advisors when reported. According to the University Registrar, only 60% of instructors report mid-term grades.

Assistant Deans and Assistant Directors for Academic Advising contact each student on their advising teams with less than twelve hours to warn him/her about the academic consequences of enrolling in an underload. Even though some students are recommended by Student Health Services or Counseling and Psychological Services to enroll in less than twelve credit hours during a semester, careful advising is necessary avoid problems with meeting the minimum credit hour requirements for academic eligibility.

In addition, Assistant Deans and Assistant Directors for Academic Advising contact students on their advising teams who are issued an academic warning. These administrators provide students with advice to make sure they understand their academic standing, and give them suggestions for addressing their academic concerns.

Current drop policies at Carolina allow students to drop a course with permission but without a notation on their transcripts through the sixth week of class. Since results of any early warning reports are not received by the student or advisor until the fifth week of class, little time remains for the student to consult with the instructor or an academic advisor and make a decision about remaining in the course or dropping it. Appendix D indicates that half of the ten peer institutions allow drops with no penalty beyond the six week mark, and the other half have more stringent policies.

## **Implications of the Current Early Warning System Policies for Retention**

- Progress reports from all instructors of first year students performing at a grade of less than “C” would better ensure that advisors have complete information to offer students sound advice about academic support resources and to make recommendations about the appropriateness of their course loads.
- Mid-term reports can provide an assessment of students’ actual performance in their courses. This information is helpful to advisors to ensure appropriate referrals to support services.
- Students who have received an Academic Warning or a Waiver of Academic Ineligibility may not be take their situations seriously enough unless they are held accountable for taking advantage of support services to address their academic difficulties. More explicit expectations for students in academic difficulty might be needed to help them take responsibility for improving their academic performance.

## **Transfer Credit Policies**

Students who are academically ineligible or who have pending academic ineligibility because of their cumulative grade-point average should NOT attend another institution if they intend to return to the University at some future date. If they enroll at another institution for twelve or more semester hours (fall or spring semester) before applying for readmission to the University, those semesters will count as semesters-in-residence and will determine requirements for restoring academic eligibility. Students who attend another institution (summer, fall, or spring), and who apply for readmission must have at least a 2.000 (C) average on work at the other institution.

Grades earned and semester hours attempted at other institutions are not included in the computation of a grade point average at the University. A grade point average earned at another university may not be used to restore academic eligibility. However, academic hours earned at another university may be used to restore academic eligibility if the student is short only credit hours. Semester hours completed at another institution in which grades of at least C (2.000 on the 4.000-point scale) have been earned will be used to determine the total cumulative semester hours passed.

## **Implications of Transfer Credit Policies for Retention**

- Students enrolled in the minimum number of credit hours to be considered full-time students (twelve hours) in a fall or spring semester are awarded a semester-in-residence. Semesters-in-residence are used to calculate a student’s academic eligibility. These calculations should be reviewed and reconsidered with the expectation that fifteen hours constitute a semester-in-residence.
- Students enrolled at another college or university must maintain a higher grade point average at that institution than at UNC-CH unless they are in their ninth (final) semester.

## Conclusions Regarding Academic Policies

The Retention Study Group identified the following policy changes as potentially important steps that the University could take to better support student success:

- Review academic eligibility of first year students after the first and second semesters, but allow them to complete two semesters of enrollment before dismissing them for academic reasons.
- Study current academic eligibility criteria for undergraduates and determine if they promote academic success. If not, revise a less complicated system that is more easily administered, and one that better supports academic success.
- Implement an early warning system that holds course instructors accountable for submitting information that would be helpful in the retention of students.
- Reconsider the deadline for dropping courses during the semester. This may give some instructors adequate time to evaluate their students' academic progress.
- Formulate a set of expectations for students not making acceptable academic progress, and hold them accountable for taking steps to improve their performance.
- Revise the number of credit hours to calculate semesters-in-residence.
- Provide the necessary financial, human, and physical resources to implement programs and initiatives directed at students' retention and graduation.
- Provide opportunities that promote and encourage collaboration among units critical to students' retention and graduation.

# Summary of Findings

The vast majority of Carolina students are academically successful and graduate within five years of entry. However, about 16% of Carolina students encounter a variety of personal and academic obstacles that contribute to leaving for another institution, dropping out without a degree, or delaying completion beyond five years. The quantitative and qualitative evidence reviewed by the Retention Study Group tended to cluster around several major factors that influence retention and graduation.

**Academic performance.** Academic achievement had the largest effect on retention and graduation outcomes of all variables. Through a rigorous, competitive admissions process, all students enrolling at Carolina have demonstrated that they have the academic capacity and personal motivation to complete their degrees. However, many students, particularly those from somewhat disadvantaged educational backgrounds, can benefit from the availability of support services to assist them in realizing this potential. The freshman year is a particularly vulnerable period, and additional attention to a student who might be faltering early on is likely have a substantial impact on his/her ability to experience success and remain at Carolina through graduation.

**Financial resources.** The influence of low family income on the probability of graduating as observed in this analysis has several implications. Even though the Office of Scholarships and Student Aid is very successful at fully funding most documented student need, observations made by the Task Force suggested that some students from low income families make decisions that adversely affect their ability to focus on their studies, such working too much because they fear the burden of loans, sending money home to family members, or simply feeling that they must have the funds to keep up with their more affluent peers. In addition, financial resources were found to be correlated with parent education. Low-income students are also more likely to be first generation college students who do not have the benefit of guidance from parents with first-hand knowledge about how to get through college.

**Engagement.** Advising and other academic support services are critical, but also important are the ways in which we help students develop personal connections to the campus through co-curricular activities and other meaningful interactions with faculty and students outside of class. The qualitative data provided by students concerning their reasons for transferring suggested that their inability to find a niche here at Carolina was a significant reason for going elsewhere. Availability to engage in the life of the campus is also impacted by financial issues. Students who feel that they must work excessively limit their opportunities to participate in study groups, see instructors during office hours, and enjoy social activities with their peers on campus.

**Academic Policies and Procedures.** The Retention Study Group identified a number of policies that might not be effectively supporting student progress towards graduation. Sending the appropriate message about academic expectations, along with revising eligibility policies so that we do not dismiss students without giving them every opportunity to succeed were considered by the Retention Study Group to be high priorities.

In light of these findings, the Retention Study Group developed a series of recommendations for actions that might be taken to improve student retention and graduation rates at Carolina. These recommendations, along with suggested means of implementation and costs estimates, conclude this report.

# Recommendations of the Retention Study Group

**Recommendation #1: Expand the current Summer Bridge Program for first year students and offer other academic enrichment programs and services for continuing students to support their endeavors to achieve academic success.**

- Expansion of the Summer Bridge Program from its current level of 60 per year to 100 per year would provide opportunities for more students to participate while maintaining the level of access to faculty and other resources that have made this program so successful.
- Consideration should also be given to establishing summer enrichment programs between the freshman and sophomore years and between the sophomore and junior years. These programs would offer students who did not participate in the Summer Bridge Program opportunities for intensive study, close relationships with faculty, academic counseling, exploration of career options, and other activities.
- A wide variety of academic support services should also be offered throughout the academic year to promote strategies for academic success.

**Recommendation #2: Revise the current system of reporting first year student progress to enhance the value of the feedback to students and allow sufficient time for intervention if needed.**

- The current requirements that instructors provide both “early warnings” on all first year students with “C” or lower grades at the end of the fourth week of class *and* midterm grade reports on all first year students in the fall semester should be consolidated. Instead, instructors should simply be required to report to Academic Advising any first year student whose grade is “C” or lower at the end of week six. Academic Advising would follow up with those students and make referrals to resources such as counseling, tutoring, etc., that could help them improve their grades in the course.
- The Executive Vice Chancellor and Provost should require all instructors of first year students to comply with the new six-week warning notices. New faculty orientation and training for teaching assistants should include instructions for completing the reports and emphasize the importance of this practice in directing first year students to academic resources. Instructors should also be encouraged to provide graded feedback to students early in the semester.
- An on-line system should be developed to make the early warning reporting process efficient and timely for instructors, the Academic Advising staff, and students.
- The Educational Policy Committee of Faculty Council should consider extending the last day to drop a course without penalty from the end of week six to the end of week eight. This would give students more time to seek academic assistance or counseling after receipt of an early warning notice and to make informed decisions about dropping the course.

**Recommendation #3: Increase opportunities for small group and supplemental instruction, as well as individual instructional services.**

- Continue to increase the proportion of lower level classes with less than 20 students, including the planned expansions of the First Year Seminars and the Honors Program.
- Expand the Supplemental Instruction Program for large lecture classes in the sciences offered by the Learning Center.
- Expand academic skill development (reading, writing) and subject-specific tutoring supports (Chemistry, Math, etc.)
- Expand Learning Disabilities Services to support the growing numbers of students who qualify for accommodations and services for learning disabilities and attention-deficit/hyperactivity disorders.

**Recommendation 4: Expand cultural and co-curricula programs that promote smaller communities, cultural identity, and a sense of belonging in the greater Carolina community.**

**Examples of support include:**

- Expansion of multicultural programs to promote interactions and learning across cultures;
- Promoting cultural programs for minority/underrepresented populations for cultural validation;

- Promoting globalization opportunities (i.e. study abroad) for underserved populations;
- Expanding opportunities for personal contact and counseling with minority professional staff and faculty through initiatives that address concerns identified by culturally discreet populations.

**Recommendation 5: Develop an early intervention process for students who encounter academic difficulties, with the goal of encouraging them to: (1) maintain their enrollment at Carolina while regaining academic good standing, and (2) take advantage of support services targeted at helping them meet their academic requirements and remove other obstacles to progress towards graduation.**

The intervention program would give priority to the following types of students, in this order:

1. First year students who did not earn at least nine semester hours and a 1.00 grade point average during their first term. It is strongly recommended that first year students not be dismissed after only one term, but instead receive support and guidance in successfully addressing the issues that led to their academic problems (about 45 per year).
2. Other students who did not meet single semester or cumulative eligibility standards and have been granted a one-semester waiver by the Appeals Committee (about 100 at beginning of fall term and 200 at beginning of spring term);
3. Students who receive an Academic Warning concerning the need to increase their hours earned or grade point average prior to the end of the next semester to remain eligible (about 215 per academic year).

Students would be placed on a one-term academic probation with the following stipulations:

- Attend a required meeting at the beginning of the probationary term with a member of the student's Academic Advising team or dean's office staff to discuss specific issues related to the ineligibility.
- The Academic Advising team or dean's office will work with the student to develop an "Academic Enhancement Plan." This document would serve as a contract between the College or professional school and the student concerning conditions that need to be met to achieve good academic standing and remain eligible to enroll in future terms. The Plan will address:
  - The minimum academic requirements (GPA, credit hours, etc.) for continued enrollment beyond the probationary term,
  - Specific courses and credit hours to be attempted during the probationary term.
  - Referrals to specific support services and programs which might include:
    - Academic Services – tutoring, the Learning Center, the Writing Center, Supplemental Instruction, etc.
    - Office for Student Academic Counseling,
    - Counseling and Psychological Services,
    - University Career Services
    - Co-curricular programs offered by Student Affairs or Minority Affairs that provide social supports
  - Expectations regarding summer school attendance or other means of achieving credit hour and grade point average requirements,
  - If relevant, a referral to the Office of Scholarships and Student Aid to discuss financial implications of attending summer school, taking a reduced load, etc., or any other financial matters that might be interfering with the student's academic success.
- If a student is not academically eligible by the end of the probationary term, the extent to which he or she complied with the conditions of the Academic Enhancement Plan should be taken into account in any appeals for eligibility waivers to continue enrollment.

**Recommendation #6: Appoint a committee to study the current academic eligibility regulations and make recommendations concerning changes that would facilitate student retention and graduation.**

- The committee should consider the implications of:

- Increasing Carolina's minimum eligibility requirements for a single term in order to set higher expectations for performance, consistent with the standards of our peer institutions.
- Eliminating the current progressive cumulative grade point average thresholds to encourage students to strive from the beginning to maintain a level of performance that will meet requirements for graduation.
- Increasing the hours constituting a semester-in-residence from 12 to 15.
- Simplifying the current academic eligibility rules.
- Prior to any changes to the current eligibility requirements, appropriate modifications should first be made to the existing systems of academic warnings and interventions, and adequate academic support and counseling services should be assured.
- The committee should be appointed by the Educational Policy Committee of Faculty Council in consultation with the Dean of the College of Arts and Sciences. It should include representation by faculty, professionals in the academic support services areas, and students.

**Recommendation #7: Maintain an on-going program of research on student retention and graduation at Carolina, and evaluate the efficacy of new and existing initiatives targeted at improving completion rates.**

- The Office of Institutional Research, with the help of Administrative Information Services, should be charged with development of a longitudinal database to facilitate the continuing study of factors related to student retention and graduation. Data to be included should consist of: entry characteristics, academic performance, non-cognitive indicators, student engagement, use of campus resources, student aid, and student perceptions of the campus environment and their co-curricular experiences at Carolina.
- A plan for assessing the impact of these recommendations on improving retention and graduation should be developed by the Retention Study Committee, and implemented by the Office of Institutional Research in cooperation with the offices responsible for these services and programs.

# **APPENDIX A:**

## **Members of the Retention Study Group**

<b>Lynn Williford, Chair</b>	<b>Assistant Provost for Institutional Research &amp; Assessment</b>
<b>Carolyn Cannon</b>	<b>Associate Dean, General College/Academic Advising</b>
<b>Fred Clark</b>	<b>Professor &amp; Associate Dean of Academic Services</b>
<b>Matt Calabria</b>	<b>Student Body President</b>
<b>Archie Ervin</b>	<b>Assistant to the Chancellor &amp; Director of Minority Affairs</b>
<b>Steve Farmer</b>	<b>Assistant Provost &amp; Director of Admissions</b>
<b>Jerry Lucido</b>	<b>Vice Provost for Admissions &amp; Enrollment Management</b>
<b>Shirley Ort</b>	<b>Associate Provost &amp; Director of Scholarships &amp; Student Aid</b>
<b>Harold Woodard</b>	<b>Associate Dean of Academic Counseling</b>
<b>Melissa Exum</b>	<b>Associate Vice Chancellor, Student Affairs</b>
<b>Bernadette Gray-Little</b>	<b>Dean, College of Arts and Sciences</b>
<b>Charles Daye</b>	<b>Professor, School of Law</b>

# Appendix B:

## References

Adelman, C. (1999). *Answers in the Tool Box: Academic intensity, attendance patterns and bachelor's degree attainment*. Washington D.C.: U.S. Department of Education, Office of Educational Research and Improvement.

Cabrera, A. F. Logistic regression analysis in higher education: An applied perspective. In J. D. Smart (Ed.), *Higher education: Handbook of theory and research*. New York: Agathan Press.

Choy, S. (2002). *Access and persistence: Findings from 10 years of longitudinal research on students*. Washington, D.C.: American Council on Education, Center For Policy Analysis.

Cuccaro-Alamin, S., & Choy, S. (1998). *Postsecondary financing strategies: How undergraduates combine work, borrowing, and attendance* (NCES 98-088). Washington, DC: U.S. Department of Education, National Center for Education Statistics, U.S. Government Printing Office.

Horn, L. (1998). *Stopouts or stayouts? Undergraduates who leave college in their first year* (NCES 1999-087). Washington, DC: U.S. Department of Education, National Center for Education Statistics, U.S. Government Printing Office, 1998.

Office of the Executive Vice Chancellor and Provost. *Academic Plan*. (2003). Chapel Hill, NC: The University of North Carolina at Chapel Hill.

Office of the Chancellor. *Measures of Excellence*. (2003). Chapel Hill, NC: The University of North Carolina at Chapel Hill.

Pascarella, E., & Terenzini, P. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Jossey-Bass.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago, IL: University of Chicago Press.

Warburton, E. C., Bugarin, R., & Nunez, A. *Bridging the gap: Academic preparation and postsecondary success of first-generation students* (NCES 2001-153). Washington, DC: U.S. Department of Education, National Center for Education Statistics, U.S. Government Printing Office, 2001.

# Appendix C:

## Results of Multivariate Analysis

### Results of Multinomial Regression Analysis To Evaluate Likelihood of Transferring

Population Probability = 5.7%

Reference Group: Students Who Graduated From Carolina Within Five Years

	Coefficient	Coefficient	Delta P	Odds Ratio	Sig.
Demographics	<b>Male</b>	<b>-0.154</b>	<b>-0.008</b>	<b>0.857</b>	
	<b>White or Asian</b>	<b>0.396</b>	<b>0.025</b>	<b>1.486</b>	<b>**</b>
	<b>Non-Legacy</b>	<b>0.066</b>	<b>0.004</b>	<b>1.068</b>	
	<b>Non-NC Resident</b>	<b>0.393</b>	<b>0.025</b>	<b>1.481</b>	<b>***</b>
Socio-Economic	<b>Parents Not College Graduates</b>	<b>0.157</b>	<b>0.009</b>	<b>1.170</b>	
Status	<b>Financial Resources (reference: Top Quartile)</b>				
	<b>Lowest Quartile</b>	<b>0.105</b>	<b>0.006</b>	<b>1.111</b>	
	<b>2nd Quartile</b>	<b>0.114</b>	<b>0.006</b>	<b>1.121</b>	
	<b>3rd Quartile</b>	<b>0.120</b>	<b>0.007</b>	<b>1.127</b>	
Academic	<b>Strength of High School Curriculum (reference: Top Quartile)</b>				
Preparation	<b>Lowest Quartile</b>	<b>0.474</b>	<b>0.032</b>	<b>1.606</b>	<b>**</b>
	<b>2nd Quartile</b>	<b>0.384</b>	<b>0.025</b>	<b>1.468</b>	<b>**</b>
	<b>3rd Quartile</b>	<b>0.306</b>	<b>0.019</b>	<b>1.358</b>	<b>*</b>
	<b>High School Performance/Grades (reference: Top Quartile)</b>				
	<b>Lowest Quartile</b>	<b>-0.177</b>	<b>-0.009</b>	<b>0.838</b>	
	<b>2nd Quartile</b>	<b>-0.054</b>	<b>-0.003</b>	<b>0.947</b>	
	<b>3rd Quartile</b>	<b>-0.190</b>	<b>-0.009</b>	<b>0.827</b>	
Academic/Social	<b>Not in Greek Organization</b>	<b>1.215</b>	<b>0.112</b>	<b>3.370</b>	<b>***</b>
Engagement	<b>Carolina Not First Choice</b>	<b>0.058</b>	<b>0.003</b>	<b>1.060</b>	
	<b>Athlete</b>	<b>0.117</b>	<b>0.007</b>	<b>1.124</b>	
Academic	<b>GPA End of First Year (reference: 3.00 or higher)</b>				
Performance	<b>&lt; 2.00</b>	<b>1.675</b>	<b>0.187</b>	<b>5.339</b>	<b>***</b>
	<b>2.00 - 2.49</b>	<b>0.364</b>	<b>0.023</b>	<b>1.439</b>	<b>**</b>
	<b>2.50 - 2.99</b>	<b>0.246</b>	<b>0.015</b>	<b>1.279</b>	
	<b>Ever Ineligible</b>	<b>0.286</b>	<b>0.017</b>	<b>1.331</b>	
Academic	<b>Ever Stopped Out</b>	<b>-0.039</b>	<b>-0.002</b>	<b>0.962</b>	
Intensity	<b>Part-time More than Once</b>	<b>1.110</b>	<b>0.098</b>	<b>3.034</b>	<b>***</b>
	<b>Earned/Attempted Hrs &lt; .95</b>	<b>0.579</b>	<b>0.040</b>	<b>1.784</b>	<b>***</b>

\*\*\*p<.01, \*\* p < .05, \* p < .10

Percentage of the Population Transferring 5.7% (392 out of 6,841)

-2 Log Likelihood 5003.274

Chi Square = 1910.516, p = .000, 50 df

Pseudo R<sup>2</sup> (Nagelkerke) .366

## Results of Multinomial Regression Analysis To Evaluate Likelihood of Neither Transferring Nor Graduating

Population Probability = 10.4%

Reference Group: Students Who Graduated From Carolina Within Five Years

	Coefficient	Coeff Value	Delta P	Odds Ratio	Sig.
Demographics	<b>Male</b>	<b>0.128</b>	<b>0.013</b>	<b>1.137</b>	
	<b>White or Asian</b>	<b>0.084</b>	<b>0.008</b>	<b>1.088</b>	
	<b>Non-Legacy</b>	<b>0.194</b>	<b>0.020</b>	<b>1.214</b>	
	<b>Non-NC Resident</b>	<b>-0.109</b>	<b>-0.010</b>	<b>0.897</b>	
Socio-Economic Status	<b>Parents Not College Graduates</b>	<b>0.311</b>	<b>0.033</b>	<b>1.365</b>	<b>***</b>
	<b>Financial Resources (reference: Top Quartile)</b>				
	<b>Lowest Quartile</b>	<b>0.577</b>	<b>0.067</b>	<b>1.781</b>	<b>***</b>
	<b>2nd Quartile</b>	<b>0.565</b>	<b>0.066</b>	<b>1.759</b>	<b>***</b>
	<b>3rd Quartile</b>	<b>0.236</b>	<b>0.024</b>	<b>1.266</b>	
Academic Preparation	<b>Strength of High School Curriculum (reference: Top Quartile)</b>				
	<b>Lowest Quartile</b>	<b>-0.120</b>	<b>-0.011</b>	<b>0.887</b>	
	<b>2nd Quartile</b>	<b>-0.040</b>	<b>-0.004</b>	<b>0.961</b>	
	<b>3rd Quartile</b>	<b>0.063</b>	<b>0.006</b>	<b>1.065</b>	
	<b>High School Performance/Grades (reference: Top Quartile)</b>				
	<b>Lowest Quartile</b>	<b>0.156</b>	<b>0.015</b>	<b>1.169</b>	
	<b>2nd Quartile</b>	<b>0.168</b>	<b>0.017</b>	<b>1.183</b>	
	<b>3rd Quartile</b>	<b>0.170</b>	<b>0.017</b>	<b>1.185</b>	
Academic/Social Engagement	<b>Not in Greek Organization</b>	<b>0.680</b>	<b>0.082</b>	<b>1.974</b>	<b>***</b>
	<b>Carolina Not First Choice</b>	<b>0.248</b>	<b>0.025</b>	<b>1.281</b>	<b>**</b>
	<b>Athlete</b>	<b>-0.123</b>	<b>-0.011</b>	<b>0.884</b>	
Academic Performance	<b>GPA End of First Year (reference: 3.00 or higher)</b>				
	<b>&lt; 2.00</b>	<b>1.914</b>	<b>0.336</b>	<b>6.780</b>	<b>***</b>
	<b>2.00 - 2.49</b>	<b>1.335</b>	<b>0.202</b>	<b>3.800</b>	<b>***</b>
	<b>2.50 - 2.99</b>	<b>0.984</b>	<b>0.133</b>	<b>2.675</b>	<b>***</b>
	<b>Ever Ineligible</b>	<b>1.719</b>	<b>0.289</b>	<b>5.579</b>	<b>***</b>
Academic Intensity	<b>Ever Stopped Out</b>	<b>1.676</b>	<b>0.279</b>	<b>5.344</b>	<b>***</b>
	<b>Part-time More than Once</b>	<b>1.089</b>	<b>0.152</b>	<b>2.971</b>	<b>***</b>
	<b>Earned/Attempted Hrs &lt; .95</b>	<b>0.232</b>	<b>0.024</b>	<b>1.261</b>	<b>*</b>

\*\*\*p<.01, \*\* p < .05, \* p < .10

Percentage of the Population Neither Graduating Nor Transferring 10.4% (713 out of 6,841)

-2 Log Likelihood 5003.274

Chi Square = 1910.516, p = .000, 50 df

Pseudo R<sup>2</sup> (Nagelkerke) .366

# Appendix D:

## Comparison of Academic Eligibility Policies

Institution	Special Rules for Freshmen	Minimum Cumulative GPA Required to Begin Semester				Min. GPA Any Term	Consequences of Not Meeting Standards for Good Standing
		3rd Semester	5th Semester	7th Semester	9th Semester		
UC-Berkeley	none	2.0	2.0	2.0	2.0	1.5 term; 2.0 cum	Term gpa: on probation next term and must earn 2.0 term gpa to avoid permanent dismissal. Cum gpa: on probation next term and must raise cum gpa to 2.0 to avoid permanent dismissal.
UCLA	none	2.0	2.0	2.0	2.0	2.0 term or cum	1.50-1.99 term or cum gpa results in probation next term, at the end of which the student must earn 2.0 term gpa to avoid dismissal. Term gpa of < 1.5 subject to immediate dismissal.
Florida	none	2.0 cum gpa and grade point deficit < 15.	2.0 cum gpa and grade point deficit < 15.	2.0 cum gpa and grade point deficit < 15.	2.0 cum gpa and grade point deficit < 15.	2.0 cum	< 2.0 cum gpa and grade point deficit of < 15 put on academic probation, which is continued until grade point deficit is removed or until it reaches 15 which results in dismissal.
Illinois	2.0 at end of first semester; otherwise on 2.0 probation in second semester.	2.0 term and cum. Other than beginning freshmen: (1) 1.75-1.99 is put on 2.25 probation; (2) less than 1.75 is placed on 2.33 probation.	2.0	2.0	2.0	2.0	Other than beginning freshmen: (1) 2.0+ cum gpa but < 2.0 term gpa is put on 2.0 probation, (2) 1.75-1.99 cum gpa is put on 2.25 probation; (3) less than 1.75 cum gpa is placed on 2.33 probation. Probation removed after cum gpa exceeds 2.0. Any term gpa <1.0 results in immediate dismissal.

Institution	Special Rules for Freshmen	Minimum Cumulative GPA Required to Begin Semester				Min. GPA Any Term	Consequences of Not Meeting Standards for Good Standing
		3rd Semester	5th Semester	7th Semester	9th Semester		
Michigan	Freshmen and transfers have a more liberal policy: generally, they may continue to the next semester with a GPA below 2.0.	2.0	2.0	2.0	2.0	2.0	Probation when term gpa <2.0. Probation continued when cum gpa <2.0 but next term gpa is 2.0 or better.
UNC-Chapel Hill	None	1.50 and 24 hours	1.75 and 51 hours	1.90 and 78 hours	2.00 and 105 hours	1.0 and 9 hrs passed	Failure to obtain 1.0 and pass 9 hrs results in dismissal, which is appealable. Warning given if cum gpa entering even semester is below the requirement for beginning the next semester. Failure to meet cum gpa and hrs requirement for beginning odd semesters results in academic review with possible dismissal.
Ohio State	Freshmen may repeat up to 15 hours in courses in which a D+, D or E is received	2.0	2.0	2.0	2.0	2.0 cum	Put on probation when cum gpa < 2.0 or when deficiency points total 15 or more.
Texas	None	2.0	2.0	2.0	2.0	2.0 cum	Put on probation when cum gpa <2.0, student is placed on probation. Failure to raise cum gpa to 2.0 after one term results in a one-term dismissal. Subsequent difficulties can result in a 3-year dismissal.

		Minimum Cumulative GPA Required to Begin Semester					
Institution	Special Rules for Freshmen	3rd Semester	5th Semester	7th Semester	9th Semester	Min. GPA Any Term	Consequences of Not Meeting Standards for Good Standing
Virginia	None	1.8	For 5th semester registration must have 54 hours and 1.8 and not more than one C- in prior semester	For 7th semester registration must have 84 hours and 1.8 and not more than one C- in prior semester	Not permitted to enroll in a 9th semester unless exceptional circumstances.	1.8 term gpa, 12 hrs passed with no more than 1 grade < C-.	Failure to meet minimum term requirements results in Academic Warning. Two consecutive terms on Academic Warning may result in suspension. Two full semesters must elapse before returning.
Washington	Less than 2.0 in first quarter of study receives an academic warning	2.0	2.0	2.0	2.0	2.0 cum	Placed on academic probation and must maintain a 2.5 term gpa until 2.0 cum gpa is restored.
Wisconsin	2.0	2.0	2.0	2.0	2.0	2.0	If term gpa is 1.00-1.99: probation. If term gpa < 1.00, strict probation. If already on probation and gpa < 2.0, student is dismissed.

# Appendix E:

## Comparison of Drop Policies

Institution	Drop Policy
UC-Berkeley	8 wks to drop. Students on probation given until the last day of class to drop.
UCLA	10 wks., until the end of semester with additional fee.
Florida	May withdraw until end of 4th week without a "W" on transcript. Special rule limits drops to 2 during first 60 credits and 2 during all credits after first 60.
Illinois	May drop during first 8 weeks of instruction
Michigan	In the first 3 weeks; may withdraw with permission; from 4th to 9th week with grade of "W"; after 10th week only in the most serious circumstances and a grade of "ED" (with no quality points, equivalent to an F) is given.
UNC-Chapel Hill	May drop with permission first 6 weeks; after 6 weeks must appeal, and if accepted, a grade of "W" is recorded.
Ohio State	May drop through 3rd Friday of quarter; between 3rd-7th Friday, may drop with permission and a grade of "W"; may not drop after 7th Friday of quarter unless under extreme circumstances.
Texas	May drop through 12th class day without penalty; may drop from 12th class day to 20th class day with grade of "Q or F"; not permitted after 20th class day unless for compelling reasons.
Virginia	May withdraw with permission during 1st 8 weeks; afterwards must complete the class or earn an incomplete grade
Washington	Through 14th day of class may drop with financial only penalty; from 14th to end of 7th week of quarter, may drop one course (limited to one per year) with a grade of "W#" for the # of week dropped..
Wisconsin	Through 9th week of class.