

Grading Patterns at UNC-CH, 1995-2008:  
Annual Report to the Faculty Council

Final Report  
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## Introduction

This 2009 Educational Policy Committee (EPC) Report summarizes an analysis of trends in undergraduate grades at UNC-CH using data from fall 1995 to fall 2008. The information contained in the report is intended to provide an accurate picture of undergraduate grades at our university over the past 13 academic years (14 fall semesters).<sup>1</sup> Empirical analyses of these data will serve as a basis for discussion and policy recommendation from the EPC in the following year. It is also our hope that this summary provides useful data for campus-wide and departmental discussion of grading among faculty, administrators, and students.

In summary, grades assigned in classes at UNC-CH have continued to rise over time (with an average grade in fall 2008 of 3.213), are more concentrated in the upper range of the grade distribution (with 82% of grades being A or B in fall 2008), and exhibit disparities across and, in some cases, within departments. The patterns in the data point to three related, but distinct, issues:

1. **Grade inflation:** to the extent that similar quality work tends to be awarded higher grades in later years, UNC-CH is experiencing *grade inflation*.
2. **Grade compression:** to the extent that continuously improving student performance cannot receive grades higher than A due to the nature of the grading scale, UNC-CH is experiencing *grade compression*.
3. **Grade inequality:** to the extent that different departments and/or instructors assign different grades for similar performance, UNC-CH is experiencing systematic grading *inequality*.

This 2009 report speaks to each of these issues by summarizing the empirical content of grades over the 1995-2008 period using figures, tables, regression analysis and discussion.

## Brief History of Grade Reporting and Discussion

One of the charges of the Educational Policy Committee (EPC) at UNC-CH is to provide the Faculty Council with an annual report on grading at the University. This charge commenced after the February 2000 EPC report on grade inflation (Educational Policy Committee, Grade Inflation at UNC-Chapel Hill: A Report to the Faculty Council, 2000) and the subsequent report from a task force on grading standards in April 2001. A brief history of the EPC reports follows:

- The 2003 EPC Report did not focus on continuing trends, but noted the increased awareness of all units on grading practices. In fact, the number of units reporting a lower grade point average (GPA) in fall 2001 compared to fall 1999 was equal to the number of units reporting higher GPAs over the same period.

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<sup>1</sup> Our summary is based on analysis of data provided to our subcommittee by the Registrar's office. We greatly appreciate the help of Alice Poehls and Gina Coleman in assembling the data we requested.

- The 2004 EPC Report showed the continuing upward progression in average grades noted in the extensive EPC Report of February 2000, which used data from fall 1967 to spring 1999.
- The 2005 EPC Report indicated substantial progress on evaluation of alternative measures to the traditional grade point average (GPA) that take into account discrepant grading practices across courses.
- The 2007 EPC Report on grading focused on its proposal to adopt the Achievement Index (AI), developed by Valen Johnson (1997, 2003), as a method for combining the information from grades earned in different college classes. The overarching goal of the AI is to measure each student's academic performance while factoring out differences among individual instructors' grading practices.
- At the April 27, 2007 Faculty Council meeting, members voted 34 to 31 against the Educational Policy Committee's proposal to incorporate an Achievement Index, designed to supplement GPA as a measure of undergraduates' performance relative to that of their classmates, as a way to address variations in grading practices across the University.

With the current (2009) report we present the most detailed, comprehensive report on grading practices and history to date.

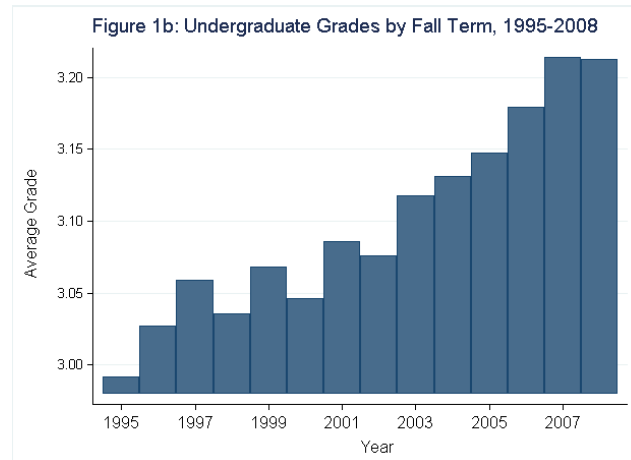
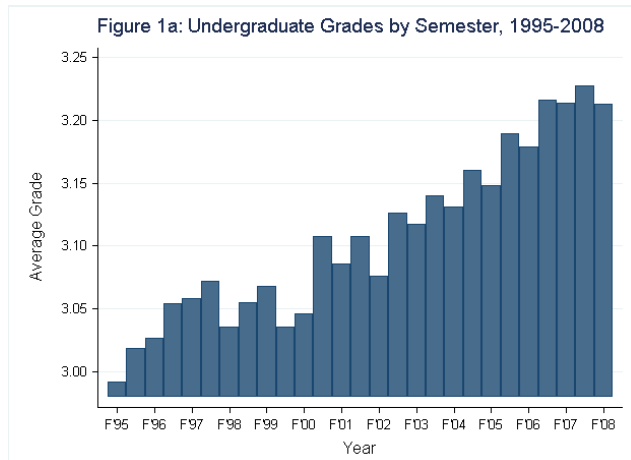
### **Issue 1: Grade Inflation**

We began our analysis by extending Figure 1 in the original Grade Report (EPC, 2000) which provides undergraduate GPA level for each semester from fall 1967 to spring 1999. (Appendix Figure A1 is a copy of the original figure.) The data available to us from 1995 to 2008 include the grade assigned to each student in each course section offered in a given term. Figure 1a of our 2009 report depicts the average of all undergraduate grades assigned in each fall and spring term.<sup>2</sup>

Figure 1a reports a fall 1995 average grade of 2.992. While there is variation in average grades each semester, the semester averages generally increase over time. The fall 2008 average grade is 3.213. (See Appendix Table A1 for average grade details by semester, including summer sessions.) Figure 1b displays averages of fall semester grades only.

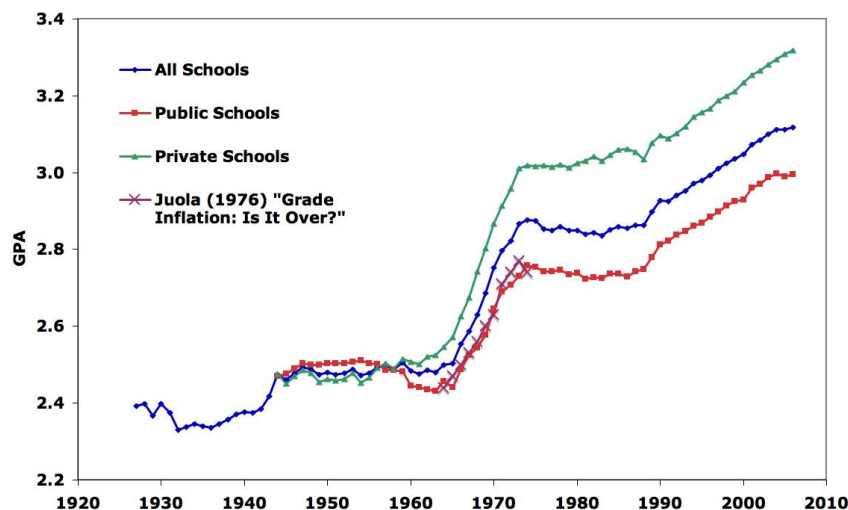
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<sup>2</sup> Here, the unit of observation is the grade assigned to a particular student in a particular course section in a particular term. There is no weighting of grades by credit hours in the figures. We do control for variation in credit hours in the regression analysis that follows.



It is useful to view the apparent inflation in grades at UNC-CH from 1967 (the first year reported in the 2000 EPC Report) to 2008 (the last year in the current 2009 EPC Report) in the context of grade inflation nationwide. Figure 1c provides the history of grades at colleges and universities from 1927-2006.<sup>3</sup> It is interesting to note that the grade trend in both public and private schools was relatively flat from 1945 to 1965. During the Vietnam War era grades began an impressive upward trend. Somewhat surprisingly, this trend was followed by another period of constant grades from 1975 to the late 1980s. The bifurcation in grades between private and public schools continued after this war era increase. Since 1990, grades have been increasing steadily.

Figure 1c: GPA as a function of time, 1927-2006



The analysis of UNC-CH grades that we provide in this report reflects the upward trend that has occurred at universities since 1990 and throughout the 2000s.

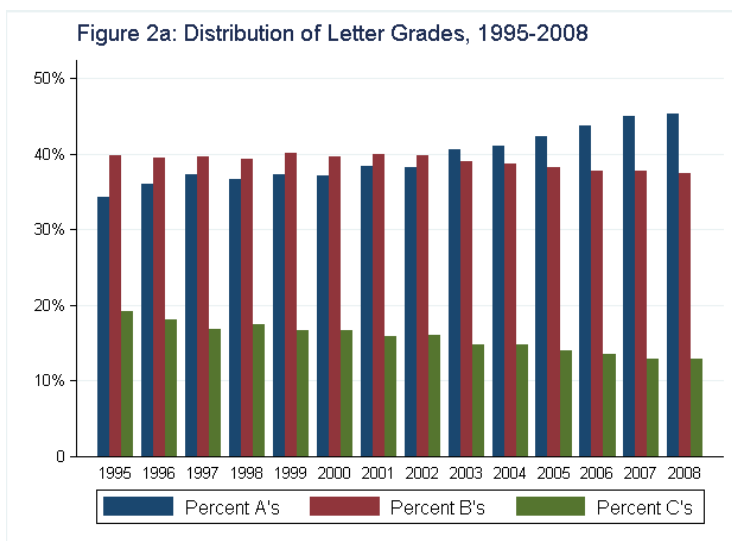
<sup>3</sup> We are grateful to Stuart Rojstaczer, a retired Professor of Geophysics from Duke University who is currently working on a paper on grading trends at US colleges and universities, for providing this figure.

This national trend is important for several reasons. First and foremost it signifies that, in general, our increase in grades is not different from the “norm”. However, and probably equally important, it suggests that any action on our part to address the upward trend should take into consideration the effects on our graduates as they compete with students from other schools for fellowships, graduate school slots, and jobs, as well as the University’s desire to be a leader in educational quality.

As is pointed out later in this report, several universities have implemented policy to address the grade inflation issue at their institution. Recognizing that such policy changes entail some costs, we believe it is useful to debate whether we want to conform to national trends or help lead the effort to grade similar quality work consistently over time.

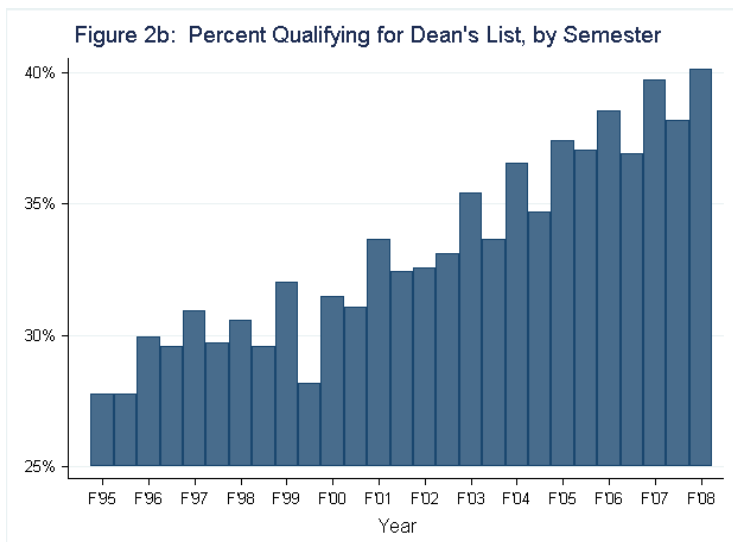
## Issue 2: Grade Compression

Figure 2a depicts the distribution of letter grades (A’s, B’s, and C’s) in the fall semester of each year from 1995 to 2008. The proportion of A grades increased over the fourteen-year period from 34% to 45% of all grades assigned, with A and B grades comprising 74% in 1995 and 82% in 2008. These data provide evidence of grade compression over time. Note that the grade of A became the modal grade in 2003. Appendix Table C1 reports the proportion of A grades by department for each fall semester from 1995 to 2008.



A concentration of grades at the upper ends of the grade distribution has consequences beyond simply the awarding of grades. Because grades are frequently compared across years, schools, departments, and instructors, grade compression presents a threat to the University's interest in fairly and accurately evaluating all students' performance. We attempt to distinguish our best undergraduates with several different awards based on grade point average: dean's list; university distinction; class rank; honors eligibility; honors thesis eligibility; and continuing eligibility for numerous scholarships and awards. When the modal grade is A or A-, and the maximum grade

is A, it becomes difficult to evaluate differences in performance among students. For example, Figure 2b provides the percentage of undergraduate students who qualified for the Dean’s List each semester from 1995 to 2008. A semester GPA cut-off (of 3.2 in 15 hours, and 3.5 in 12-14 hours, of graded work not including Physical Education classes) is used for the awarding of Dean’s List.<sup>4</sup>



Our calculations suggest that 27.8% of undergraduates received the Dean’s List distinction in fall 1995. In fall 2008, 40.1% of students were on the Dean’s List. Appendix Table D1 presents the percentage of students qualifying for the Dean’s List by major (of those with at least 100 declared majors in fall 2008 who also offered the major in fall 1995).

### Issue 3: Grade Inequality

Figures 3a and 3b provide a line graph depicting average grades by semester over time for different classifications of courses. The classifications include courses taught by the College of Arts and Sciences, School of Business Administration, School of Education, and School of Journalism. Courses in these schools constitute 94% of all undergraduate heads taught from 1995 to 2008, with 86.5% of those being in Arts and Sciences, 3.8% in BUSI, 2.8% in JOMC, and 1.0% in EDUC. The fall 2008 grade point averages for the four schools are 3.16, 3.38, 3.26, and 3.72, respectively. In fall of 1995, average grades in courses in Arts and Sciences, Business Administration, and Journalism were relatively similar around 2.95.

<sup>4</sup> The calculation of a student’s semester grade point average was done using the raw data. That is, we multiplied the observed grade in a course by the credit hours assigned to that course, summed up over all non-PE courses taken during the semester, and divided by the total hours during the semester. We followed the rules stated at <http://advising.unc.edu/guidelines/deanslist>. We have not verified our calculations with the historical awarding of individual students to the Dean’s List.

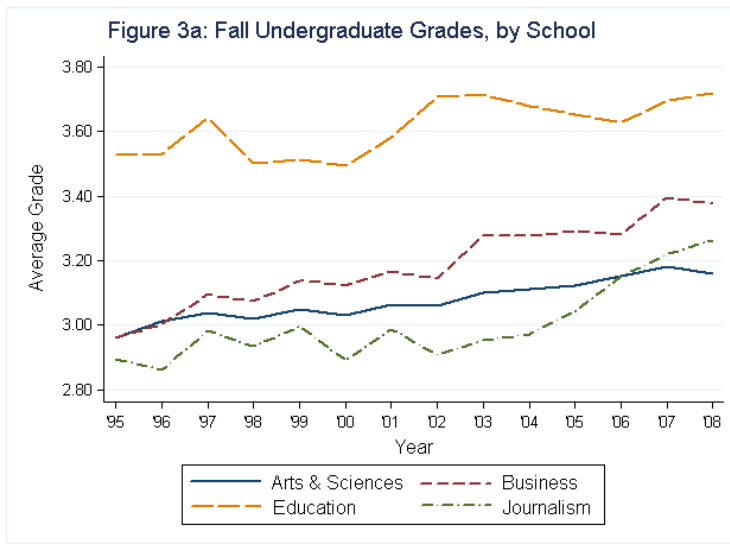
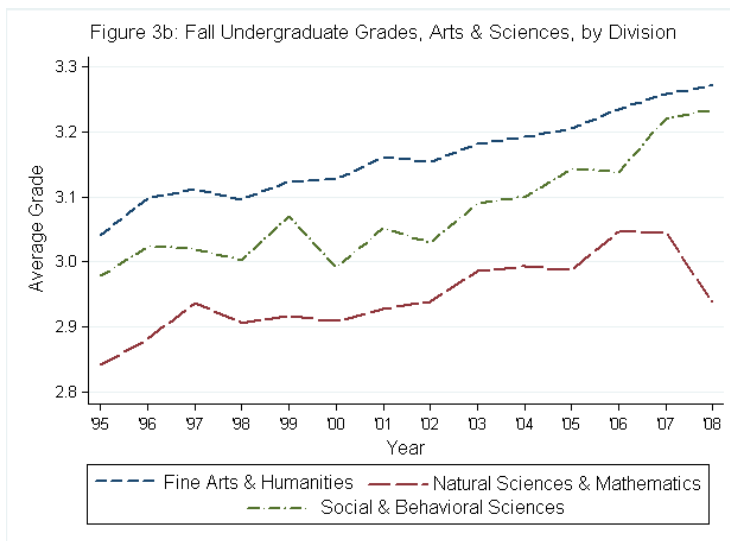


Figure 3b depicts the disparity in grades in the three divisions of the College of Arts and Sciences: Fine Arts and Humanities, Social and Behavioral Sciences, and Natural Sciences and Mathematics. Within the College of Arts and Sciences, Fine Arts and Humanities teaches 45.5% of undergraduate heads; Social and Behavioral Sciences, 24.2%; and Natural Sciences and Mathematics, 30.3%. Their respective grade averages in fall 2008 were 3.27, 3.23, and 2.94.



Average course grades by department in the fall semesters of 1995 and 2008 are depicted in Figure 3c. The departments included in this figure are those with at least 100 observations (i.e., grades recorded in all courses taught within that department) in each semester. (Appendix Table C1 details these averages for each department for each fall semester from 1995 to 2008. Appendix F provides a listing of 2009 course designations.)





Tables E1a and E1b in Appendix E present the marginal effects of particular contributors (which are simply the estimated coefficients given that this is a linear regression with no interactions of explanatory variables other than with the time trend). The dependent variable is the grade received by a particular student in a particular course (or section of a course) each semester and year.<sup>5</sup> To correct for correlation across observations due to individual unobservables affecting observed individual grades (i.e., there are multiple observations per student within a semester), we cluster the standard errors at the student level. We do not, however, include instructor fixed effects.<sup>6</sup>

Because the focus of this report is on accurately identifying potential causes for (or correlation with) increases in grades over time, it is interesting to examine the marginal effects (both the 1995 shifter and the additional linear trend effect of each variable over time) of the observable student, instructor, course, and/or department characteristics themselves. To do so, however, one should be aware of several statistical caveats.

- 1.) The reader should be sure to interpret a marginal effect in relation to the characteristics of the reference student. That is, the constant in this regression reflects the expected grade of a white, male, in-state sophomore during the fall semester of 1995 enrolled in a non-honors, lower level (001-049 old numbering system), 3.0 hour credit English course with 25-59 students. Let's call this person your average "Joe" so that we can refer back to him in discussion of the results.<sup>7</sup>
- 2.) Additionally, changing one characteristic often involves changing other characteristics. For example, we may be interested in knowing how the expected grade of this same reference student (Joe) might change if he was a senior. In addition to adding the coefficient on the senior indicator to the constant, it may be the case that the selection of courses would change (from lower to upper level) and this person may now have declared a major.
- 3.) These marginal effects reflect correlation in many cases and should not be interpreted as causal. That is, the econometrician realizes that the estimated coefficients on some included variables, such as whether the course is one in his or her major, may be biased since the variables are not assigned to a student exogenously. A student's major is likely to be explained by unobservables that also affect the grade outcome in the course.

We respectfully ask that those unfamiliar with regression analysis verify any interpretation of a regression coefficient to avoid reporting or broadcasting a false interpretation.

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<sup>5</sup> We also ran a regression using the average grade assigned in a particular class during a particular semester as the dependent variable. Those results are not provided here.

<sup>6</sup> In the regression using class averages as the unit of observation, standard errors are clustered at the instructor level. Such clustering accounts for correlation in the unobservable determinants across observations of one instructor over time.

<sup>7</sup> The characteristics of Joe are chosen, in most cases, because they are the most prevalent in the data. For example, English (ENGL) is chosen as the comparison department because it teaches the most students (approximately 7% of all observations over the sample period). Others are selected because they are consistent with a sophomore student (e.g., continuing student, in freshman/sophomore class, etc).

Most of the observed explanatory variables enter the regression equation by themselves (denoted  $\text{variable}_{95}$  to indicate the additive effect in fall 1995) and are interacted with a linear time trend (denoted  $\text{variable}_t$  where the variable is interacted with a time trend taking on the values 1-26 for each semester after fall 1995). This construction allows the marginal effect of the explanatory variable to differ (linearly) over time. Looking first at the trend in general (variable: Time trend<sub>t</sub>) we see that a person similar to Joe (and in a similar class) in fall 1996 (2 semesters later) would have an expected grade  $0.0110 = [2 \times 0.0055]$  points higher than his expected grade of 3.076 (variable: Constant) in fall 1995. In fall 2008, this person could expect a grade of 3.2190 [=  $3.0760 + 26(0.0055)$ ] where fall of 2008 is 26 semesters after fall 1995.

If Joe were female in 1995 rather than male (e.g., Josephine), we would expect her average grade (in the reference course) to be 0.141 (variable:  $\text{Female}_{95}$ ) points higher. A female with Joe's characteristics in fall 1996 would have an expected grade of 3.2266 [=  $3.0760 + 0.1410 + 2(0.0055) + 2(-0.0007)$ ].

One can examine the time trend interaction of each explanatory variable to determine whether that factor is having an increasing or decreasing effect over time (relative to the trend of Joe in the ENGL class). That is, grades of males like Joe in this ENGL class are increasing over time. Grades of females (similar to Joe) are higher, on average, than those of males, but this gender gap in grades is closing over time. Put differently, grades of (these) females are rising at a slower rate than (these) males.

The regression includes departmental fixed effects and linear time trends. Table E1b displays these coefficients for each department. Grades in AFAM, for example, are higher (by 0.141 in fall 1995) than the average in ENGL, and are increasing at a faster rate [ $(0.0033 + 0.0055)$  vs. 0.0055]. Grades in ANTH are 0.0320 higher than ENGL grades on average (in fall 1995) and are increasing at a slower rate each semester ( $0.0029 = 0.0055 + (-0.0026)$ ). Grades in CHEM are 0.4920 points lower than those in ENGL in fall 1995, and are falling by  $0.0013 (= [0.0055 + (-0.0068)])$  each semester.

## Summary and Conclusions

We summarize this 2009 EPC report by suggesting that grade inflation, grade compression, and grade inequality are evident in the 1995-2008 grade data. It is our hope that the University community can use this report to begin or continue discussion of these issues and the merits of addressing them.

We conclude by listing possible remedies for these trends. The EPC plans to study the issues and solutions during the following year, and provide a formal recommendation next academic year. Such remedies, some of which have been implemented at other universities, fall into five groups:

1. We can seek to redress inequality and inflation through a **statistical procedure** to make inter-class, inter-instructor, and inter-department rankings fair by factoring out these external causes of grade achievement. These rankings include Dean's List, Distinction,

and Class Rank, as well as admission criteria to university-wide scholarships and programs. The best known way to do this remains the Achievement Index, a subject of much discussion two years ago and, as of now, still the EPC's endorsed best method for beginning to address the problem.

2. We can seek to redress inequality and inflation through a **quota system** of some kind, such as restricting the total number of As and Bs assignable per section or imposing a statistical “curve” on grades after they are issued. Most famously, Princeton University has adopted a system limiting A grades to no more than 35% of students in each department. Wellesley College adopted a policy in 2003 that the mean grade in lower level courses with 10 or more students should be no higher than a 3.33.
3. We can seek to redress inequality and inflation through **more detailed reporting**. For example, Indiana University reports the distribution of grades in each section on students' transcripts, allowing astute readers to evaluate the relative difficulty of earning the grade reported.
4. A recent article in the journal *College Teaching* (Barriga et al. 2008) reported on an intervention at Seton Hall University in which faculty devoted substantial amounts of time to **discussion and cross-evaluation** of grade inflation. The intervention offers some hope, as the observed pattern of grade inflation at Seton Hall diminished after the intervention.
5. We can seek to separate evaluation from instruction, relying on **external evaluation** to judge student performance in classes. Swarthmore College, for example, submits its honors program students to examination by external examiners based on the syllabi of the classes each student has taken. A system that allows instructors to focus on the instruction task and evaluates students' performance separately could include a similar program or other approaches.

The EPC endorses the principle of seeking creative and effective ways of addressing grade inflation, compression, and inequality. We plan to propose one or more interventions to address them during the 2009-2010 academic year.

## References

Barriga, Alvaro Q., Eric K. Cooper, Mary Ann Gawalek, Kristin Burela, and Elizabeth Johnson. 2008. "Dialogue and Exchange of Information About Grade Inflation Can Counteract Its Effects." *College Teaching* 56:4 (Fall), 201-209.

EPC Report (2000). Educational Policy Committee, "Grade Inflation at UNC-Chapel Hill: A Report to the Faculty Council." UNC-CH document.

Johnson, V.E. (1997). "An alternative to traditional GPA for evaluating student performance." *Statistical Science*, 12, 257-278.

Johnson, V.E. (2003). *Grade inflation: A crisis in college education*. New York, NY: Springer.

Appendix A: Information pertaining to discussion of Figures 1a and 1b

Figure A1: Copy of Figure 1 from EPC Report 2000

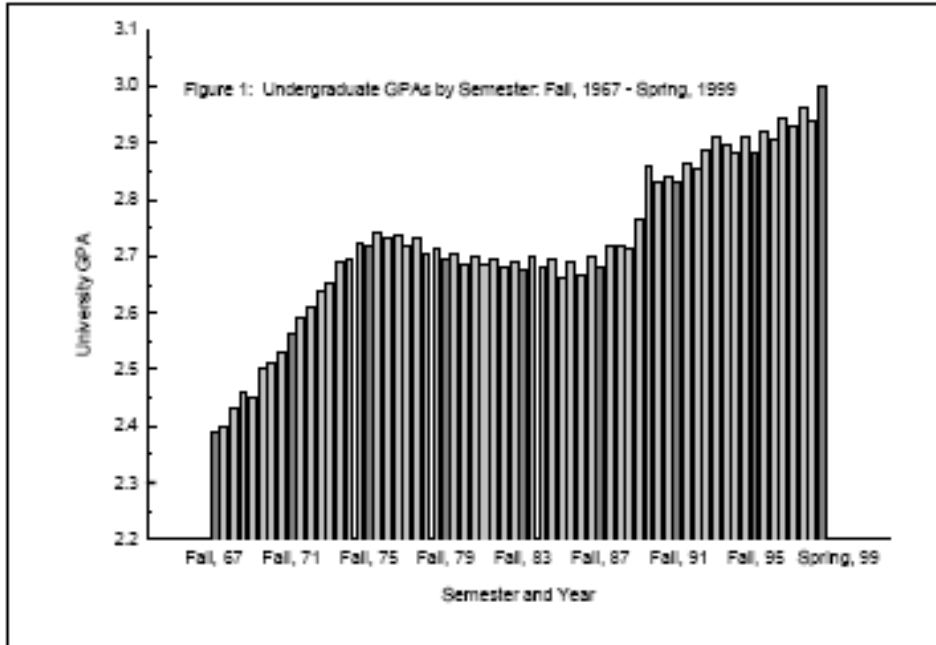


Table A1: Average grade data for Figures 1a and 1b of EPC Report 2009

Academic Year	Fall	Spring	1st SS	2nd SS
1995-1996	2.992	3.019	3.052	3.054
1996-1997	3.027	3.055	3.090	3.063
1997-1998	3.059	3.072	3.083	3.093
1998-1999	3.036	3.055	3.099	3.071
1999-2000	3.068	3.036	3.109	3.108
2000-2001	3.046	3.108	3.132	3.121
2001-2002	3.086	3.107	3.106	3.027
2002-2003	3.076	3.126	3.129	3.144
2003-2004	3.118	3.141	3.166	3.159
2004-2005	3.131	3.161	3.184	3.109
2005-2006	3.148	3.190	3.157	3.078
2006-2007	3.179	3.216	3.186	3.144
2007-2008	3.214	3.227	3.136	3.118
2008-2009	3.213			

Appendix B: Tables of sample sizes in research data sample

Table B1: Number of course observations each semester\* ( $N_g = 2,086,514$ )

Academic Year	Fall	Spring	1st SS	2nd SS
1995-1996	72,627	65,786	6,688	5,336
1996-1997	71,177	64,059	6,252	4,870
1997-1998	70,041	63,781	6,559	5,516
1998-1999	70,285	64,670	6,720	5,243
1999-2000	70,674	65,112	6,626	4,917
2000-2001	72,156	65,464	6,850	5,063
2001-2002	73,868	68,926	7,093	5,086
2002-2003	74,920	68,870	6,793	5,180
2003-2004	75,914	69,864	7,217	4,980
2004-2005	77,647	71,293	7,486	4,949
2005-2006	78,704	72,575	7,578	4,732
2006-2007	79,904	74,276	5,228	4,551
2007-2008	76,780	75,515	4,373	4,103
2008-2009	82,107	0	0	0

\*If a course grade is non-numeric, then the observation is deleted from the research sample. Deletions (46,031) include:

H:	376
P:	889
L:	39
AB:	2632
IN:	1897
NR:	36
PS:	38869
SP:	999
P:	0
S:	294

Table B2: Number of students each semester ( $N_s = 511,829$ )

Academic Year	Fall	Spring	1st SS	2nd SS
1995-1996	15,305	14,275	4,303	3,452
1996-1997	14,949	13,928	4,154	3,152
1997-1998	14,933	13,976	4,264	3,320
1998-1999	14,946	13,971	4,334	3,424
1999-2000	15,099	14,138	4,305	3,224
2000-2001	15,272	14,212	4,469	3,290
2001-2002	15,548	14,792	4,654	3,393
2002-2003	15,777	14,699	4,505	3,308
2003-2004	15,884	14,952	4,607	3,225
2004-2005	16,290	15,336	4,703	3,238
2005-2006	16,577	15,476	4,826	3,091
2006-2007	16,831	15,995	3,750	3,027
2007-2008	16,535	16,466	3,177	2,884
2008-2009	17,588	0	0	0

Appendix C

Table C1: Average grades and percent As by course department (Fall '95 – Fall '08)

Course	Fall '95	Fall '96	Fall '97	Fall '98	Fall '99	Fall '00	Fall '01	Fall '02	Fall '03	Fall '04	Fall '05	Fall '06	Fall '07	Fall '08
AFAM	3.05 0.28	3.06 0.30	3.15 0.30	3.09 0.29	3.29 0.42	3.26 0.44	3.26 0.42	3.22 0.45	3.32 0.53	3.35 0.52	3.32 0.54	3.28 0.51	3.39 0.55	3.35 0.51
AFRI	3.06 0.24	2.86 0.23	3.00 0.26	3.21 0.35	3.22 0.37	3.13 0.32	3.30 0.42	3.22 0.43	3.30 0.45	3.45 0.60	3.33 0.50	3.22 0.49	3.38 0.43	3.52 0.63
AMST			3.01 0.29	3.31 0.51	3.50 0.56	3.31 0.45	3.46 0.54	3.46 0.50	3.49 0.61	3.28 0.52	3.51 0.67	3.55 0.62	3.45 0.53	3.50 0.63
ANTH	3.08 0.35	3.23 0.47	3.17 0.40	2.98 0.35	3.27 0.47	3.07 0.35	3.25 0.43	3.14 0.39	3.22 0.39	3.20 0.42	3.18 0.40	3.18 0.43	3.31 0.46	3.26 0.45
APPL									3.26 0.54			3.41 0.60	3.57 0.64	3.58 0.70
ARAB											3.31 0.56	3.17 0.48	3.24 0.53	3.56 0.63
ARMY								3.70 0.80	3.83 0.88			3.91 0.93	3.82 0.85	
ART	3.13 0.36	3.11 0.37	3.20 0.42	3.23 0.44	3.38 0.51	3.25 0.50	3.24 0.46	3.25 0.46	3.21 0.42	3.25 0.49	3.20 0.50	3.30 0.51	3.34 0.52	3.37 0.54
ASIA						3.49 0.61					3.53 0.67	3.40 0.59	3.52 0.60	3.47 0.54
ASTR	2.80 0.21	2.72 0.23	2.65 0.22	2.97 0.30	2.81 0.27	2.86 0.33	2.89 0.27	2.87 0.32	2.94 0.33	2.95 0.38	2.93 0.35	2.97 0.35	3.00 0.38	2.85 0.26
BIOL	2.63 0.24	2.65 0.23	2.78 0.29	2.66 0.23	2.68 0.24	2.70 0.23	2.69 0.24	2.63 0.22	2.72 0.26	2.68 0.24	2.70 0.24	2.70 0.25	2.77 0.26	2.65 0.24
BIOS		3.09 0.39	3.12 0.35	2.98 0.36										
BUSI	2.96 0.24	3.00 0.25	3.10 0.31	3.07 0.30	3.14 0.31	3.12 0.29	3.17 0.33	3.15 0.32	3.28 0.38	3.28 0.41	3.29 0.42	3.28 0.43	3.40 0.49	3.38 0.51
CDFS						3.74 0.82	3.66 0.75							
CHEM	2.72 0.26	2.76 0.26	2.82 0.28	2.80 0.28	2.83 0.28	2.79 0.27	2.75 0.27	2.71 0.25	2.74 0.26	2.75 0.27	2.78 0.27	2.88 0.31	2.81 0.28	2.76 0.25
CHIN	3.56 0.64	3.24 0.52		3.38 0.57	3.39 0.52	3.17 0.50	3.31 0.56	3.35 0.53	3.31 0.54	3.44 0.58	3.46 0.56	3.47 0.60	3.41 0.53	3.34 0.51
CLAR	2.78 0.37	2.98 0.39	2.88 0.37	2.83 0.36	3.13 0.40	3.14 0.42	3.06 0.39	2.83 0.33	2.64 0.17	2.64 0.21	2.54 0.16	2.90 0.28	2.93 0.25	2.87 0.27
CLAS	3.07 0.39	2.87 0.31	2.94 0.30	3.04 0.38	2.60 0.25	2.86 0.30	3.04 0.35	2.78 0.25	2.91 0.31	2.57 0.13	2.77 0.24	2.92 0.32	2.80 0.28	2.82 0.29
CLSC	3.31 0.41	3.31 0.44	3.24 0.39	3.14 0.36	3.21 0.35	3.16 0.34	3.39 0.50	3.04 0.34	3.10 0.28	3.23 0.40	3.38 0.49	3.34 0.48	3.34 0.49	3.40 0.51

CMPL		3.15 0.39	3.32 0.51	3.08 0.31	3.23 0.44	3.24 0.53	3.34 0.47	3.43 0.50	3.17 0.38	3.00 0.31	3.35 0.50	3.33 0.57	3.43 0.60	3.08 0.32
COMM	3.02 0.31	3.15 0.37	3.08 0.37	2.94 0.31	3.03 0.33	3.15 0.41	3.23 0.44	3.28 0.47	3.18 0.42	3.20 0.46	3.31 0.52	3.29 0.52	3.33 0.54	3.26 0.51
COMP	2.93 0.34	2.79 0.35	2.91 0.39	2.71 0.33	2.79 0.32	2.58 0.25	2.81 0.36	2.97 0.46	3.09 0.43	3.04 0.45	3.03 0.46	3.26 0.57	3.21 0.47	3.20 0.50
DHYG	3.17 0.36	3.16 0.35	3.32 0.44	3.18 0.33	3.17 0.35	3.11 0.33	3.07 0.28	3.10 0.31	3.16 0.37	3.11 0.30	3.15 0.30	3.35 0.40	3.23 0.34	3.10 0.32
DRAM	3.08 0.33	3.23 0.44	3.21 0.45	3.30 0.49	3.21 0.46	3.25 0.49	3.23 0.46	3.08 0.35	3.25 0.49	3.16 0.41	3.27 0.48	3.26 0.47	3.24 0.45	3.20 0.42
ECOL			3.10 0.34	3.05 0.34										
ECON	2.70 0.25	2.83 0.28	2.74 0.26	2.78 0.28	2.81 0.29	2.72 0.24	2.72 0.25	2.72 0.25	2.80 0.29	2.86 0.28	3.02 0.37	2.92 0.30	3.00 0.34	3.03 0.35
EDUC	3.55 0.65	3.52 0.64	3.70 0.78	3.52 0.63	3.50 0.60	3.47 0.64	3.56 0.70	3.71 0.77	3.71 0.80	3.68 0.77	3.65 0.73	3.63 0.70	3.70 0.77	3.72 0.78
ENGL	3.21 0.38	3.26 0.41	3.24 0.40	3.26 0.42	3.27 0.42	3.23 0.40	3.24 0.40	3.27 0.42	3.34 0.48	3.36 0.48	3.39 0.52	3.40 0.54	3.43 0.53	3.42 0.53
ENST						3.15 0.36	3.36 0.55	3.38 0.55	3.50 0.63	3.48 0.59	3.45 0.62	3.53 0.63	3.73 0.77	3.65 0.71
ENVR	3.11 0.36	2.83 0.28	3.17 0.35	2.92 0.28	2.87 0.24	2.76 0.21	2.77 0.22	2.89 0.19	2.65 0.17	2.89 0.24	2.94 0.30			
EXSS						3.09 0.42	3.06 0.39	3.13 0.43	3.16 0.43	3.20 0.44	3.12 0.42	3.19 0.45	3.14 0.41	3.26 0.50
FOLK	3.01 0.34												3.28 0.41	
FREN	2.86 0.27	2.96 0.30	3.03 0.32	3.05 0.35	3.05 0.32	3.12 0.39	3.12 0.34	3.07 0.34	3.18 0.40	3.17 0.39	3.12 0.35	3.23 0.38	3.17 0.37	3.15 0.37
GEOG	2.78 0.28	3.09 0.38	3.15 0.45	2.87 0.30	2.75 0.27	2.88 0.32	3.02 0.36	3.05 0.33	3.01 0.35	2.99 0.32	3.01 0.36	3.05 0.36	3.17 0.40	3.31 0.46
GEOI	2.81 0.28	2.95 0.37	2.95 0.34	2.97 0.36	3.05 0.38	3.00 0.42	3.06 0.40	3.06 0.41	3.04 0.38	3.15 0.41	3.21 0.49	3.04 0.39	3.00 0.36	2.99 0.34
GERM	2.88 0.25	3.00 0.30	3.05 0.34	2.96 0.27	3.02 0.34	3.08 0.35	3.04 0.33	2.98 0.30	3.11 0.35	3.02 0.37	3.12 0.43	3.12 0.39	3.19 0.47	3.37 0.51
HIST	2.78 0.20	2.83 0.21	2.87 0.22	2.83 0.22	2.90 0.23	2.88 0.24	2.91 0.22	2.88 0.23	2.95 0.25	2.97 0.27	2.97 0.27	3.04 0.28	3.01 0.28	3.03 0.29
HNRS	3.71 0.74	3.71 0.72	3.70 0.76	3.64 0.69	3.69 0.72	3.72 0.75	3.72 0.75	3.85 0.89	3.69 0.86	3.76 0.81	3.79 0.87	3.82 0.88	3.85 0.87	3.85 0.89
HPAA	3.69 0.67	3.64 0.64	3.72 0.77	3.56 0.69	3.46 0.54	3.47 0.64	3.57 0.76	3.56 0.65	3.44 0.54	3.45 0.56	3.60 0.62	3.51 0.54	3.54 0.60	3.69 0.75
INLS			3.57 0.64	3.56 0.67	3.65 0.71	3.44 0.59	3.59 0.66	3.58 0.72	3.60 0.71	3.46 0.66	3.33 0.55	3.49 0.70	3.54 0.72	3.44 0.59
INTS	3.19 0.47	3.53 0.67	3.65 0.69	3.23 0.40	3.08 0.25	3.12 0.34	3.02 0.29	3.26 0.42	3.41 0.50	3.31 0.59	3.51 0.62	3.26 0.45	3.40 0.53	3.41 0.52
ITAL	3.12	3.01	3.07	3.06	3.27	3.17	3.19	3.26	3.36	3.45	3.43	3.44	3.46	3.42



	0.40	0.40	0.36	0.38	0.48	0.41	0.44	0.46	0.54	0.59	0.59	0.60	0.58	0.56
JAPN	3.40 0.56	3.41 0.58	3.27 0.53	3.13 0.48	3.27 0.56	3.15 0.43	3.38 0.58	3.34 0.51	3.38 0.56	3.33 0.55	3.37 0.56	3.46 0.62	3.20 0.50	3.30 0.51
JOMC	2.89 0.18	2.86 0.18	2.98 0.23	2.93 0.18	3.00 0.24	2.89 0.17	2.99 0.22	2.91 0.17	2.95 0.19	2.97 0.21	3.04 0.25	3.15 0.31	3.22 0.36	3.26 0.39
LATN	2.51 0.16	2.46 0.20	2.83 0.32	2.78 0.27	2.89 0.31	2.86 0.28	2.88 0.30	2.84 0.30	2.66 0.27	2.75 0.22	2.63 0.29	2.63 0.21	2.89 0.26	3.05 0.40
LING	2.84 0.28	2.91 0.31	2.86 0.28	2.96 0.36	3.15 0.38	3.16 0.42	3.16 0.43	3.20 0.44	2.93 0.30	3.07 0.37	3.11 0.41	3.03 0.40	3.01 0.38	3.09 0.39
LSRA	2.99 0.22	3.11 0.32	3.24 0.45	2.84 0.29										
MASC									3.13 0.45	3.34 0.48	3.14 0.39		3.07 0.40	3.30 0.42
MATH	2.54 0.23	2.57 0.24	2.58 0.24	2.45 0.21	2.42 0.20	2.42 0.21	2.50 0.24	2.46 0.23	2.49 0.23	2.53 0.24	2.48 0.24	2.66 0.28	2.68 0.29	2.62 0.27
MCRO	2.90 0.21	2.60 0.13					2.99 0.39	2.89 0.34	2.57 0.18	2.71 0.23	2.65 0.22	2.59 0.21	2.70 0.28	2.60 0.24
MUSC	3.58 0.70	3.56 0.68	3.58 0.69	3.56 0.70	3.52 0.67	3.54 0.69	3.63 0.73	3.59 0.70	3.57 0.70	3.57 0.69	3.48 0.65	3.57 0.71	3.68 0.79	3.65 0.75
NURS	3.40 0.48	3.25 0.40	3.23 0.37	3.14 0.35	3.14 0.31	3.14 0.32	3.20 0.37	3.18 0.35	3.24 0.35	3.30 0.39	3.36 0.41	3.46 0.52	3.55 0.58	3.56 0.59
NUTR	2.69 0.32	3.23 0.41	3.18 0.38	3.29 0.44	3.11 0.38	3.11 0.41	2.99 0.42	3.03 0.36	3.14 0.41	3.11 0.44	3.23 0.46	3.16 0.47	3.30 0.43	3.46 0.56
OR									3.14 0.45	2.90 0.38	2.68 0.23	2.82 0.29		
PHIL	2.82 0.22	2.86 0.23	2.91 0.24	2.87 0.23	2.92 0.24	2.89 0.24	2.94 0.26	2.92 0.25	2.90 0.28	3.01 0.28	2.97 0.28	3.01 0.29	3.08 0.32	3.12 0.35
PHYA	3.75 0.83	3.83 0.91	3.86 0.92	3.83 0.89	3.82 0.90	3.84 0.92	3.85 0.91	3.86 0.92	3.89 0.94	3.87 0.92	3.88 0.93	3.88 0.93	3.90 0.94	3.87 0.94
PHYE	3.25 0.47	3.24 0.47	3.25 0.46	3.23 0.46	3.14 0.41									
PHYS	2.68 0.21	2.69 0.22	2.63 0.19	2.66 0.18	2.74 0.24	2.74 0.22	2.73 0.25	2.73 0.25	2.73 0.22	2.77 0.24	2.88 0.29	2.89 0.27	2.90 0.28	2.94 0.28
PLAN													3.53 0.63	3.34 0.40
PLCY								3.20 0.35	3.25 0.37	3.36 0.45	3.43 0.50	3.38 0.49	3.64 0.70	3.34 0.46
POLI	2.98 0.31	3.04 0.33	3.00 0.32	3.02 0.33	3.07 0.33	3.04 0.34	3.01 0.31	2.99 0.28	3.00 0.33	2.93 0.28	2.98 0.32	3.02 0.31	2.98 0.30	3.07 0.32
PORT	3.16 0.39	2.99 0.34	3.03 0.33	3.07 0.35	3.04 0.38	3.08 0.44	2.92 0.34	3.13 0.43	3.16 0.49	3.21 0.45	3.20 0.47	3.43 0.57	3.27 0.48	3.09 0.39
PSYC	3.05 0.37	2.94 0.32	2.98 0.34	3.06 0.37	3.09 0.38	2.97 0.35	3.01 0.36	2.98 0.35	3.07 0.40	3.04 0.37	3.10 0.39	3.14 0.42	3.22 0.45	3.26 0.48
PUPA				3.33	3.22	3.49	3.25							

				0.53	0.43	0.59	0.41							
PWAD						3.07 0.34	3.13 0.34	2.99 0.23	3.13 0.31	3.10 0.30	3.17 0.35	3.09 0.36	3.16 0.40	3.36 0.49
RADI							3.29 0.43	3.10 0.24			3.39 0.50	3.43 0.60	3.50 0.61	3.35 0.51
RECR					2.92 0.20	2.91 0.22	2.76 0.12	3.24 0.36	3.28 0.51	3.52 0.62				
RELI	2.94 0.27	2.90 0.28	2.97 0.30	2.94 0.34	3.05 0.39	3.15 0.44	3.20 0.43	3.22 0.45	3.29 0.48	3.36 0.50	3.25 0.46	3.26 0.47	3.23 0.40	3.36 0.48
RUSS	3.46 0.59	3.30 0.53	3.29 0.57	3.48 0.65	3.49 0.64	3.40 0.59	3.51 0.67	3.40 0.63	3.42 0.56	3.56 0.66	3.19 0.52	3.45 0.61	3.48 0.60	3.44 0.58
SOCI	3.05 0.33	3.06 0.36	3.04 0.36	3.12 0.41	3.13 0.36	3.07 0.33	3.11 0.35	3.08 0.40	3.19 0.42	3.25 0.48	3.26 0.47	3.24 0.48	3.28 0.46	3.20 0.41
SPAN	2.87 0.24	3.04 0.30	3.01 0.30	2.95 0.27	3.02 0.29	3.04 0.30	3.10 0.32	3.15 0.35	3.15 0.36	3.20 0.38	3.16 0.36	3.16 0.37	3.24 0.41	3.26 0.44
STAT	2.64 0.22	2.56 0.19	2.69 0.25	2.68 0.24	2.72 0.27	2.60 0.24	2.64 0.25	2.69 0.24	2.75 0.25	2.74 0.26	2.68 0.27	2.88 0.29		
STOR													2.94 0.34	2.99 0.35
WMST	3.24 0.38	3.34 0.50	3.28 0.46	3.18 0.38	2.98 0.25	3.02 0.35	3.26 0.39	3.16 0.37	3.26 0.41	3.14 0.31	3.36 0.55	3.34 0.49	3.35 0.49	3.38 0.53

## Appendix D

Table D1: Percentage of Students Qualifying for Dean's List by Major

Major	Number of Majors in Fall '08	Percent of Majors on Dean's List	
		Fall 2008	Fall 1995
BUSU	1,451	51.76	31.32
JOMC	1,319	44.96	40.14
BIOB	1,080	39.81	28.82
PSYA	880	37.84	29.54
POLI	787	43.46	28.12
COMM	727	35.63	37.66
BIOA	656	23.32	19.26
EXSS	653	31.85	52.63
ECON	633	32.23	31.78
ENGL	563	46.71	40.85
HIST	542	44.28	33.33
INTS	534	49.81	0.00
NURS	450	45.11	30.00
CHMB	346	43.06	33.33
PSYB	324	45.68	32.09
CHMA	236	27.12	27.94
SOCI	215	26.05	20.61
PUPA	172	37.79	26.53
PHAR	166	24.70	25.37
PWAD	135	42.22	26.32
APPL	133	46.62	19.83
MATA	119	36.97	40.00
MUSP	107	70.09	40.00
ANTH	103	34.95	45.00
DRAM	103	45.63	32.50
PHIL	100	46.00	28.75

Note: This table lists only those majors with at least 100 students listing it as their first major in fall 2008 and that also existed in fall 1995. The table is ordered from largest to smallest by the number of majors in fall 2008.

Appendix E: Regression Results

Table E1a: Marginal Effects of Explanatory Variables on Grade Received (Fall 1995 – Fall 2008)

Explanatory Variables	Marginal Effect	Standard Error	
		*** p<0.01, ** p<0.05, * p<0.1	
<b>Term and Time Characteristics</b>			
Constant (Average for “Joe” at t=’95)	3.0760	(0.0099)	***
Time trend <sub>t</sub>	0.0055	(0.0010)	***
Spring semester <sub>95</sub>	-0.0105	(0.0031)	***
Spring semester <sub>t</sub>	0.0001	(0.0002)	
<b>Student Characteristics</b>			
<b>Classification (omitted: Sophomore)</b>			
Freshman <sub>95</sub>	0.0277	(0.0062)	***
Freshman <sub>t</sub>	0.0014	(0.0004)	***
Junior <sub>95</sub>	0.3190	(0.1050)	***
Junior <sub>t</sub>	-0.0182	(0.0059)	***
Senior <sub>95</sub>	0.3900	(0.1050)	***
Senior <sub>t</sub>	-0.0190	(0.0059)	***
Other <sub>95</sub>	0.1090	(0.1070)	
Other <sub>t</sub>	-0.0200	(0.0060)	***
<b>Gender (omitted: Male)</b>			
Female <sub>95</sub>	0.1410	(0.0075)	***
Female <sub>t</sub>	-0.0007	(0.0005)	
<b>Race/Ethnicity (omitted: White)</b>			
Black <sub>95</sub>	-0.5480	(0.0122)	***
Black <sub>t</sub>	0.0026	(0.0008)	***
Hispanic <sub>95</sub>	-0.1020	(0.0322)	***
Hispanic <sub>t</sub>	-0.0029	(0.0016)	*
Other <sub>95</sub>	-0.0464	(0.0155)	***
Other <sub>t</sub>	0.0007	(0.0008)	
<b>Residency (omitted: In-state)</b>			
Out-of-state <sub>95</sub>	0.2070	(0.0092)	***
Out-of-state <sub>t</sub>	-0.0035	(0.0006)	***
<b>Registration Type (omitted: Continuing)</b>			
New <sub>95</sub>	-0.0053	(0.0059)	
New <sub>t</sub>	0.0002	(0.0004)	
Intra-Univ Transfer <sub>95</sub>	-0.1340	(0.0449)	***
Intra-Univ Transfer <sub>t</sub>	-0.0045	(0.0032)	
Readmit <sub>95</sub>	-0.4520	(0.0203)	***
Readmit <sub>t</sub>	-0.0041	(0.0014)	***
Transfer <sub>95</sub>	-0.1790	(0.0126)	***
Transfer <sub>t</sub>	0.0042	(0.0008)	***

Table E1a: continued

Explanatory Variables	Marginal Effect	Standard Error	
		*** p<0.01, ** p<0.05, * p<0.1	
<b>Instructor Characteristics</b>			
Faculty Rank (omitted: Ten-track or tenured)			
Teaching assistant <sub>95</sub>	0.0181	(0.0036)	***
Teaching assistant <sub>t</sub>	-0.0004	(0.0002)	***
Fixed term <sub>95</sub>	0.0516	(0.0039)	***
Fixed term <sub>t</sub>	-0.0010	(0.0002)	***
Rank missing <sub>t</sub>	0.0063	(0.0078)	
<b>Course Characteristics</b>			
Honors Course (omitted: Non-honors)			
Honors course <sub>95</sub>	0.5780	(0.0143)	***
Honors course <sub>t</sub>	-0.0062	(0.0008)	***
Class Size (omitted: 25-59 students)			
Less than 10 students <sub>95</sub>	0.1640	(0.0082)	***
Less than 10 students <sub>t</sub>	-0.0008	(0.0005)	
11-24 students <sub>95</sub>	0.0548	(0.0037)	***
11-24 students <sub>t</sub>	0.0010	(0.0002)	***
60-99 students <sub>95</sub>	-0.0617	(0.0049)	***
60-99 students <sub>t</sub>	-0.0033	(0.0003)	***
100-199 students <sub>95</sub>	-0.1440	(0.0050)	***
100-199 students <sub>t</sub>	-0.0002	(0.0003)	
Greater than 449 students <sub>95</sub>	-0.1720	(0.0062)	***
Greater than 449 students <sub>t</sub>	-0.0007	(0.0004)	*
Course Primarily For (omitted: Fr & Soph)			
Juniors and Seniors <sub>95</sub>	0.1000	(0.0043)	***
Juniors and Seniors <sub>t</sub>	-0.0011	(0.0003)	***
Adv Undergrad & Graduates <sub>95</sub>	0.0927	(0.0060)	***
Adv Undergrad & Graduates <sub>t</sub>	0.0010	(0.0004)	***
Grad Students Only <sub>95</sub>	0.0917	(0.0534)	*
Grad Students Only <sub>t</sub>	0.0020	(0.0032)	
Seminar & Research for Grad <sub>95</sub>	-0.2890	(0.2380)	
Seminar & Research for Grad <sub>t</sub>	0.0210	(0.0128)	
Interdisciplinary Adv U & G <sub>95</sub>	-0.5330	(0.4260)	
Interdisciplinary Adv U & G <sub>t</sub>	0.0214	(0.0313)	
Major Course (omitted: Major not declared)			
Major declared <sub>95</sub>	-0.2900	(0.1050)	***
Major declared <sub>t</sub>	0.0147	(0.0059)	**
Course in major <sub>95</sub>	0.0017	(0.0062)	
Course in major <sub>t</sub>	-0.0013	(0.0004)	***

Credit Hours (omitted: Three hour)			
One hour <sub>95</sub>	0.4160	(0.0068)	***
One hour <sub>t</sub>	-0.0030	(0.0004)	***
Two hour <sub>95</sub>	0.1770	(0.0082)	***
Two hour <sub>t</sub>	-0.0050	(0.0005)	***
Four hour <sub>95</sub>	-0.0600	(0.0069)	***
Four hour <sub>t</sub>	0.0005	(0.0004)	
Five or more hours <sub>95</sub>	0.1020	(0.0113)	***
Five or more hours <sub>t</sub>	-0.0060	(0.0007)	***
Department Characteristics			
Heads data available ('99-'08)	-0.1030	(0.0104)	***
Number of heads <sub>95</sub>	-0.0000	(0.0000)	
Number of heads <sub>t</sub>	-0.0000	(0.0000)	
Number of heads missing <sub>t</sub>	0.6270	(0.1680)	***
Percent of heads non-major <sub>95</sub>	0.0044	(0.0158)	
Percent of heads non-major <sub>t</sub>	0.0102	(0.0015)	***
Number of majors missing <sub>t</sub>	0.1010	(0.0174)	***
*For department fixed and time trend effects, see Table E1b below			

Table E1b: Department Fixed (fall 1995) and Time Trend Effects on Grade Received

Department	Fixed Effect for Fall 1995			Linear Time Trend Effect*		
	Marginal Effect	Standard Error		Marginal Effect	Standard Error	
ENGL (reference)	0.0000	---		0.0000	--	
AERO	0.1110	(0.0348)	***	0.0017	(0.0026)	
AFAM	0.1410	(0.0125)	***	0.0033	(0.0010)	***
AFRI	0.0409	(0.0157)	***	0.0043	(0.0012)	***
AHSC	-0.4200	(0.0618)	***	0.0153	(0.0034)	***
AMST	-0.0595	(0.0221)	***	0.0040	(0.0014)	***
ANTH	0.0323	(0.0108)	***	-0.0026	(0.0008)	***
APPL	-0.4570	(0.0799)	***	0.0239	(0.0040)	***
ART	-0.0323	(0.0141)	**	0.0004	(0.0010)	
ASIA	0.1250	(0.0219)	***	-0.0094	(0.0013)	***
BIOC	-0.3700	(0.0524)	***	0.0042	(0.0033)	
BIOL	-0.5850	(0.0115)	***	-0.0020	(0.0009)	**
BIOS	-0.3280	(0.0525)	***	-0.0005	(0.0033)	
BMME	-1.0800	(0.1400)	***	0.0524	(0.0067)	***
BUSI	-0.3210	(0.0129)	***	0.0173	(0.0011)	***
CBIO	-0.4370	(0.0867)	***	0.0198	(0.0056)	***
CHEM	-0.4920	(0.0117)	***	-0.0068	(0.0008)	***
CLAS	-0.2790	(0.0164)	***	-0.0094	(0.0012)	***
CMPL	-0.0514	(0.0349)		-0.0066	(0.0029)	**
COMM	-0.1640	(0.0131)	***	0.0085	(0.0010)	***
COMP	-0.4370	(0.0271)	***	0.0077	(0.0017)	***
DHYG	-0.0840	(0.0392)	**	0.0057	(0.0025)	**
DRAM	0.1280	(0.0097)	***	-0.0066	(0.0008)	***
ECL	0.1300	(0.0769)	*	-0.0056	(0.0033)	*
ECOL	-0.1370	(0.0984)		-0.0054	(0.0166)	
ECON	-0.4580	(0.0122)	***	0.0035	(0.0008)	***
EDUC	0.1570	(0.0147)	***	0.0052	(0.0010)	***
ENST	0.0138	(0.0456)		0.0038	(0.0023)	*
ENVR	-0.440	(0.0370)	***	0.0095	(0.0024)	***
EPID	0.2990	(0.0404)	***	-0.0108	(0.0027)	***
EXSS	0.2230	(0.0162)	***	-0.0074	(0.0010)	***
FOLK	-0.0971	(0.0423)	**	-0.0012	(0.0030)	
GEOG	-0.1510	(0.0121)	***	-0.0022	(0.0010)	**
GEOL	-0.2760	(0.0131)	***	-0.0041	(0.0010)	***
GERM	-0.3230	(0.0221)	***	0.0019	(0.0015)	
HBHE	0.2610	(0.0725)	***	-0.0179	(0.0113)	
HIST	-0.2840	(0.0084)	***	0.0005	(0.0006)	
HNRS	0.2650	(0.0184)	***	-0.0024	(0.0015)	
HPAA	0.2530	(0.0191)	***	0.0034	(0.0016)	**
IDST	-0.1140	(0.2560)		0.0089	(0.0136)	
INLS	0.2720	(0.0311)	***	-0.0096	(0.0023)	***
INTS	0.0939	(0.0251)	***	-0.0039	(0.0015)	***
JOMC	-0.4660	(0.0130)	***	0.0149	(0.0011)	***
LING	-0.3010	(0.0214)	***	0.0002	(0.0015)	

LSRA	-0.2160	(0.0376)	***	-0.0061	(0.0091)	
LTAM	0.2470	(0.0666)	***	-0.0021	(0.0042)	
MAHP	-0.2850	(0.0593)	***	-0.0012	(0.0130)	
MASC	-0.4290	(0.0360)	***	0.0089	(0.0022)	***
MATH	-0.6950	(0.0115)	***	-0.0077	(0.0009)	***
MCRO	-0.1800	(0.0288)	***	-0.0118	(0.0022)	***
MEDC	-0.4050	(0.0596)	***	0.1850	(0.0307)	***
MILS	0.1500	(0.0707)	**	0.0117	(0.0034)	***
MUSC	0.1680	(0.0121)	***	-0.0012	(0.0008)	
NAVS	-0.0303	(0.0386)		0.0097	(0.0026)	***
NURS	0.0422	(0.0187)	**	0.0131	(0.0014)	***
NUTR	-0.3410	(0.0356)	***	0.0106	(0.0022)	***
OR	-0.3660	(0.0840)	***	0.0048	(0.0078)	
PATH	-0.0217	(0.0412)		0.0188	(0.0026)	***
PHAD	-0.0211	(0.0437)		0.1280	(0.0246)	***
PHAR	-0.0790	(0.0362)	**	-0.3250	(0.0355)	***
PHCO	-0.7300	(0.0536)	***	-0.0440	(0.0141)	***
PHCY	-0.1950	(0.0279)	***	0.0178	(0.0039)	***
PHIL	-0.2590	(0.0099)	***	-0.0029	(0.0008)	***
PHPR	0.3550	(0.0259)	***	0.0751	(0.0107)	***
PHYA	0.1840	(0.0102)	***	0.0013	(0.0012)	
PHYE	0.0384	(0.0216)	*	-0.0128	(0.0045)	***
PHYI	-0.7620	(0.0427)	***	0.0261	(0.0029)	***
PHYS	-0.4360	(0.0135)	***	-0.0000	(0.0010)	
PLAN	-0.0338	(0.0237)		0.0165	(0.0027)	***
PLCY	-0.3080	(0.0564)	***	-0.0042	(0.0007)	***
POLI	-0.1510	(0.0099)	***	0.0049	(0.0007)	***
PSYC	-0.2110	(0.0095)	***	0.0070	(0.0116)	
PUBH	0.0316	(0.2330)		0.0116	(0.0041)	***
PUPA	-0.0675	(0.0390)	*	-0.0132	(0.0018)	***
PWAD	0.2890	(0.0321)	***	0.0446	(0.0053)	***
RECR	-0.7620	(0.0718)	***	0.0072	(0.0009)	***
RELI	-0.1690	(0.0130)	***	-0.0027	(0.0006)	***
ROML	-0.1980	(0.0076)	***	-0.0196	(0.0068)	***
RUES	-0.0610	(0.1210)		-0.0066	(0.0020)	***
SLAV	0.0562	(0.0308)	*	0.0061	(0.0008)	***
SOCI	-0.1310	(0.0107)	***	0.0106	(0.0054)	*
SOWO	-0.0739	(0.0980)		0.0133	(0.0030)	***
SPCL	0.0327	(0.0495)		-0.0052	(0.0020)	***
STAT	-0.4710	(0.0185)	***	0.0093	(0.0032)	***
STOR	-0.6910	(0.0678)	***	0.0013	(0.0032)	
TEP	0.3960	(0.0357)	***	0.0007	(0.0014)	
WMST	-0.0701	(0.0196)	***	0.0017	(0.0026)	

\*Add general time trend (0.0055) to departmental time trend to obtain total change within a department over time, all else equal.



## Appendix F: Listing of 2009 Course Designations\*

AERO	AEROSPACE STUDIES	EPID	EPIDEMIOLOGY
AFAM	AFRO AMER STUDIES	ERMD	EMERGENCY MEDICINE
AFRI	AFRICAN STUDIES	EURO	COMTEMPORARY EUROPEAN STUDIES
AHSC	ALLIED HEALTH SCIENCES	EXSS	EXERCISE AND SPORT SCIENCE
AMST	AMERICAN STUDIES	FMME	FAMILY MEDICINE
ANES	ANESTHESIOLOGY	FOLK	FOLKLORE
ANTH	ANTHROPOLOGY	FREN	FRENCH
APPL	APPLIED SCIENCES	GEOG	GEOGRAPHY
ARAB	ARABIC	GEOL	GEOLOGY
ARMY	ARMY	GERM	GERMAN
ART	ART	GNET	GENETICS AND MOLECULAR BIOLOGY
ASIA	ASIAN STUDIES	GOVT	GOVERNMENT
ASTR	ASTRONOMY	GRAD	GRADUATE STUDIES
BBSP	BIOLOGICAL AND BIOMEDICAL SCI	GREK	GREEK
BCB	BIOINFORMATICS AND COMP BIOLOG	HBHE	HLTH BEHAVIOR & EDUC
BIOC	BIOCHEMISTRY	HEBR	HEBREW
BIOL	BIOLOGY	HIST	HISTORY
BIOS	BIOSTATISTICS	HMSC	HUMAN MOVEMENT SCIENCE
BMME	BIO-MED.ENGINEERING	HNRS	HONORS
BUSA	BUSINESS-STUDY ABROAD	HNUR	HINDI/URDU
BUSG	GLOBAL SHCOLARS PRGM	HPM	HEALTH POLICY AND MANAGEMENT
BUSI	BUSINESS ADMIN.	HUNG	HUNGARIAN
CBIO	CELL AND DEVELOPMENT BIOLOGY	IBMS	INTERDISC BIOMEDICAL SCIENCES
CHEM	CHEMISTRY	IDST	INT-DISCIPL STUDIES
CHIN	CHINESE	IHMS	INTERDIS HUMAN MOVEMENT SCIENC
CLAR	CLASSICAL ARCHAEOLOGY	INLS	INFORMATION & LIBRARY SCIENCE
CLAS	CLASSICS	INTS	INTERNATIONAL STUDY
CLSC	CLINICAL LABORATORY SCIENCE	ISP	INTL STUDENT PROGRAM
CMPL	COMPARATIVE LIT.	ITAL	ITALIAN
COMM	COMMUNICATION STUDIES	JAPN	JAPANESE
COMP	COMPUTER SCIENCE	JOMC	JOURNALISM AND MASS COMM
CYTO	CYTOTECHNOLOGY	JWST	JEWISH STUDIES
CZCH	CZECH	KOR	KOREAN
DENG	DENTAL GRADUATE COURSE	LATN	LATIN
DHED	DENTAL HYGIENE EDUCATION	LFIT	LIFETIME FITNESS
DHYG	DENTAL HYGIENE	LGLA	LINGALA LANGUAGE
DPET	EXPERIMENTAL THERAPEUTICS	LING	LINGUISTICS
DPOP	PHARM OUTCOMES AND POLICY	LTAM	LATN-AMER STUDIES
DPPE	PHAR PRAC AND EXPERIENTIAL ED	MAC	MASTERS OF ACCOUNTING
DRAM	DRAMATIC ART	MASC	MARINE SCIENCE
DTCH	DUTCH	MATH	MATHEMATICS
ECOL	ECOLOGY	MBA	MASTERS OF BUSINESS ADMIN
ECON	ECONOMICS	MCRO	MICROBIOLOGY
EDUC	EDUCATION	MEDC	MEDICINAL CHEMISTRY
EDUX	EXPERIENCED TEACHER EDUCATION	MEDI	MEDICINE
ENDO	ENDODONTICS	MHCH	MATERNAL & CHLD HLTH
ENGL	ENGLISH	MNGT	MANAGEMENT AND SOCIETY
ENST	ENVIRONMENTAL STUDIES	MOPH	MOLECULAR PHARMACEUTICS
ENVR	ENVIRONMENT SCIENCES	MTSC	MATERIAL SCIENCE

MUSC	MUSIC
NAVS	NAVAL SCIENCE
NBIO	NEUROBIOLOGY
NURS	NURSING
NUTR	HEALTH NUTRITION
OBIO	ORAL BIOLOGY
OCCT	MED ALLIED HLTH PROF
OCSC	OCCUPATIONAL SCIENCE
OMSU	ORAL SURGERY
OPER	DENTISTRY OPERATIVE
ORAD	ORAL RADIOLOGY
ORPA	ORAL PATHOLOGY
ORTH	ORTHODONTICS
PATH	PATHOLOGY
PEDO	PEDIATRIC DENTISTRY
PEDS	PEDIATRICS
PERI	PERIODONTOLOGY
PHCO	PHARMACOLOGY
PHCY	PHARMACY (NON-DEPARTMENTAL)
PHIL	PHILOSOPHY
PHNU	PUBLIC HEALTH NURS
PHYA	PHYSICAL ACTIVITIES
PHYI	PHYSIOLOGY
PHYS	PHYSICS
PHYT	PHYSICAL THERAPY
PLAN	CITY AND REGIONAL PLANNING
PLCY	PUBLIC POLICY
PLSH	POLISH
POLI	POLITICAL SCIENCE
PORT	PORTUGUESE
PROS	PROSTHODONTICS
PRSN	PERSIAN
PSYC	PSYCHOLOGY
PUBA	PUBLIC ADMINISTRATION
PUBH	PUBLIC HEALTH
PWAD	PEACE WAR & DEFENSE
RADG	RADIOGRAPHY
RADI	RADIOLOGIC SCIENCE
RADY	RADIOLOGY
RECR	RECREATION AND LEISURE STUDIES
RELI	RELIGIOUS STUDIES
ROBT	ROBERTSON SCHOLARS PROGRAM
ROML	ROMANCE LANGUAGES
RPSY	REHABILITATION PSYCH & COUNSEL
RUES	RUSSIAN & EAST EUROPEAN STUDIE
RUSS	RUSSIAN
SECR	SERBIAN AND CROATION
SLAV	SLAVIC LANGUAGES
SOCI	SOCIOLOGY
SOWO	SOCIAL WORK

SPAN	SPANISH
SPCL	EXP & SPL STUDIES
SPHS	SPEECH & HEARING SCIENCES
STOR	STATISTICS AND OPERATIONS RES
SWAH	SWAHILI
TOXC	TOXICOLOGY
WMST	WOMEN STUDIES
WOLO	WOLOF LANGUAGE
YAP	YEAR ABROAD PROGRAM

\* Courses or departments that no longer exist or have merged may be included in the tables in this document. We have not included the full name of those courses or departments in this appendix.