



University of Rhode Island

Retention and Graduation Rates for Students

In Academic Plans Offered by the

College of Environment and Life Sciences

Preliminary Summary of Results

Prepared by the Office of Information Services / Institutional Research

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Introduction

The purpose of this study is to examine the College of Environment and Life Sciences (CELS) during the period of 1994-2004 in terms of the success of students enrolled in the academic plans (majors) it offers. The generally accepted measures of success in college – retention and graduation rates – are compared to all freshman undergraduates at the University (including CELS majors) to gauge their relative standing. In addition, SAT composite scores and high school class rank are considered as indicators of pre-college preparation.

Fall semester data extracted from the University's student information systems at chronologically consistent points (October 15th) over an eleven-year period (1994 through 2004) allow individual student enrollments and completions to be tracked over time. The variables include gender, race/ethnicity, enrollment term, credit load, SAT scores, high school class size and rank, and graduation date for all students who entered as new undergraduates.

Annual cohorts are established as populations of first-time, full-time freshmen entering with fewer than 24 college credits at admission, carrying at least 12 credits in their initial fall term of enrollment, and pursuing a baccalaureate degree. Once established, cohorts cannot gain additional students. Re-enrollment as of October 15th in following fall terms and graduation within 6 years after the term of initial enrollment are the standard criteria for calculation of retention and graduation rates.

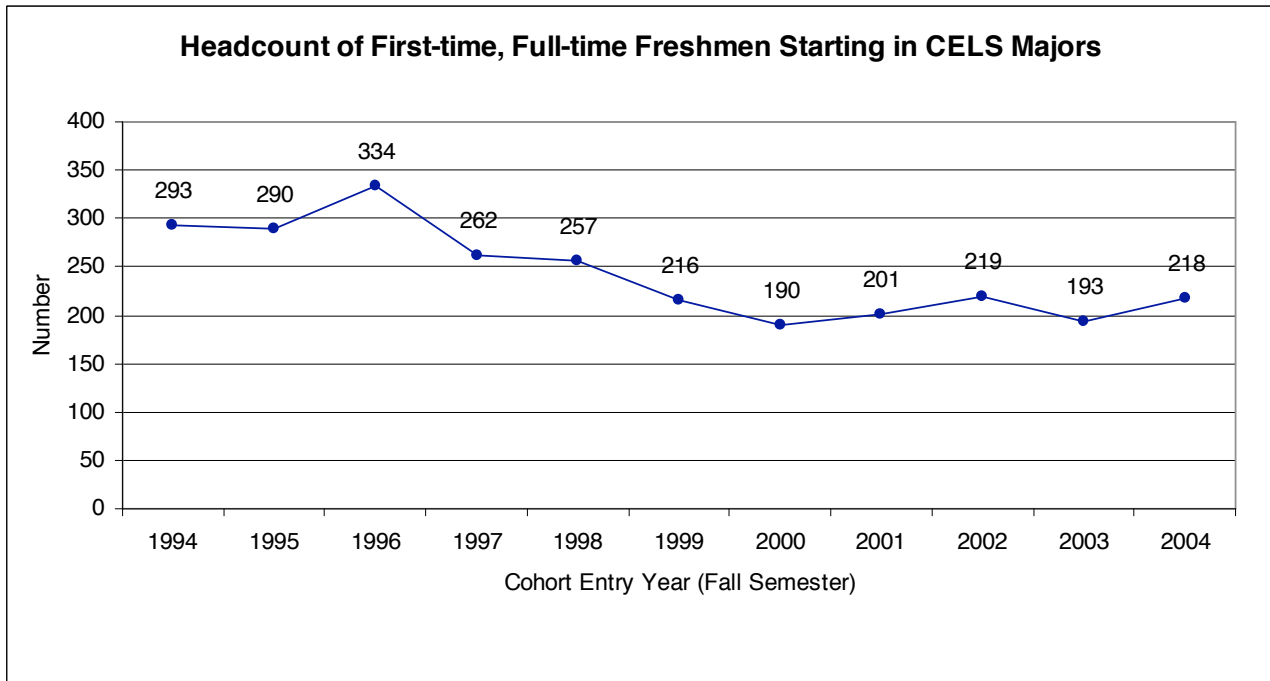
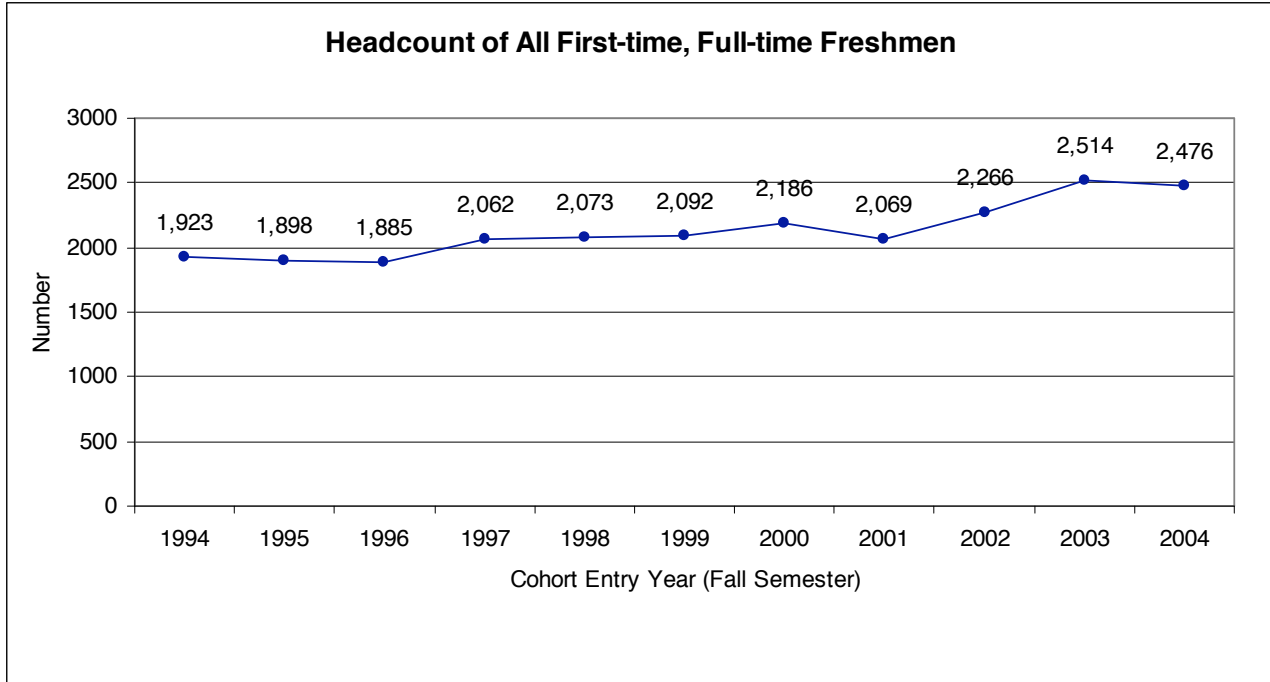
The list of majors is shown in Appendix I. It includes several formerly offered by the College of Arts & Sciences but now administered by CELS after re-alignment of programs during the decade. For this analysis, students who initially enrolled in a CELS major are tracked regardless of their persistence in that major or their switch to another CELS major or to a non-CELS major. Although this criterion excludes students who eventually choose a CELS major after the midpoint of their first semester, it provides a baseline for students who indicated early interest in these disciplines. Additional investigations might look at students who migrated into CELS majors at a later point or students who graduated from CELS majors regardless of their starting disciplines.

In any study with small sample sizes and segmented categories, calculated rates are likely to show greater variability from year to year than large ones. To dampen wild swings, rates for several years are averaged using the maximum number of years available for a particular variable (e.g., first year retention can be based on ten years of data while graduation within six years must exclude cohorts that have not yet completed six full years).

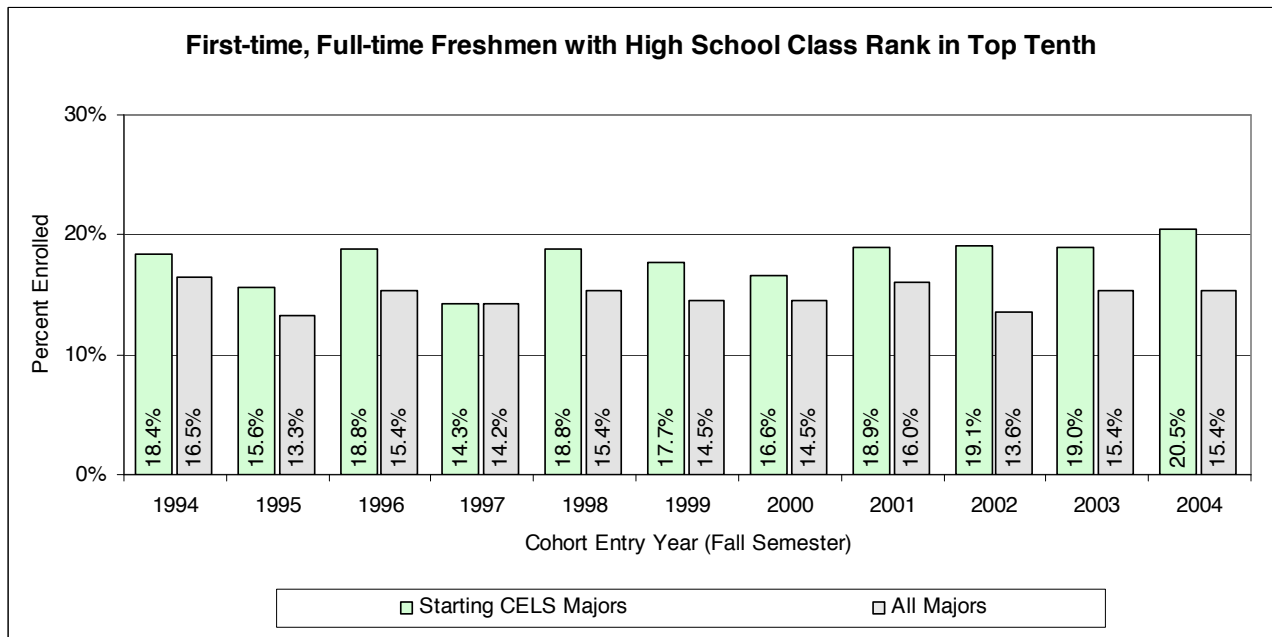
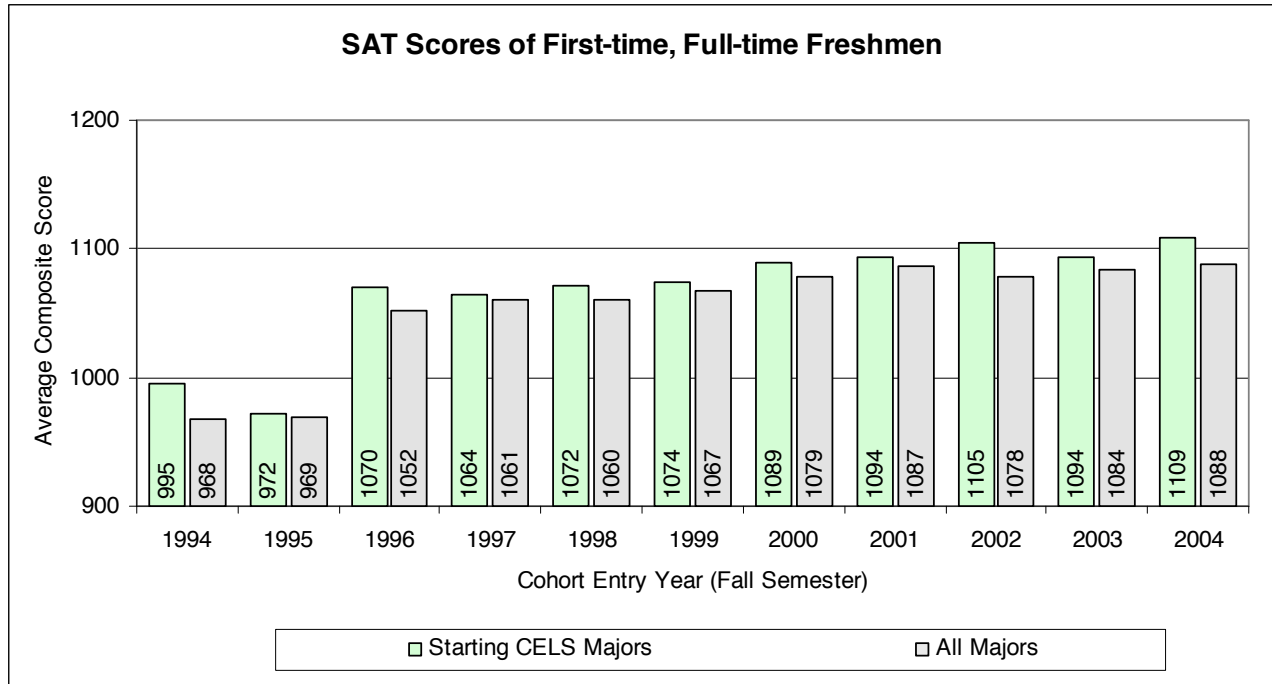
The information in this report represents only an initial compilation of the data for the College as a whole. Additional work is in progress to look at differences by gender, residency, and race/ethnicity.

Results

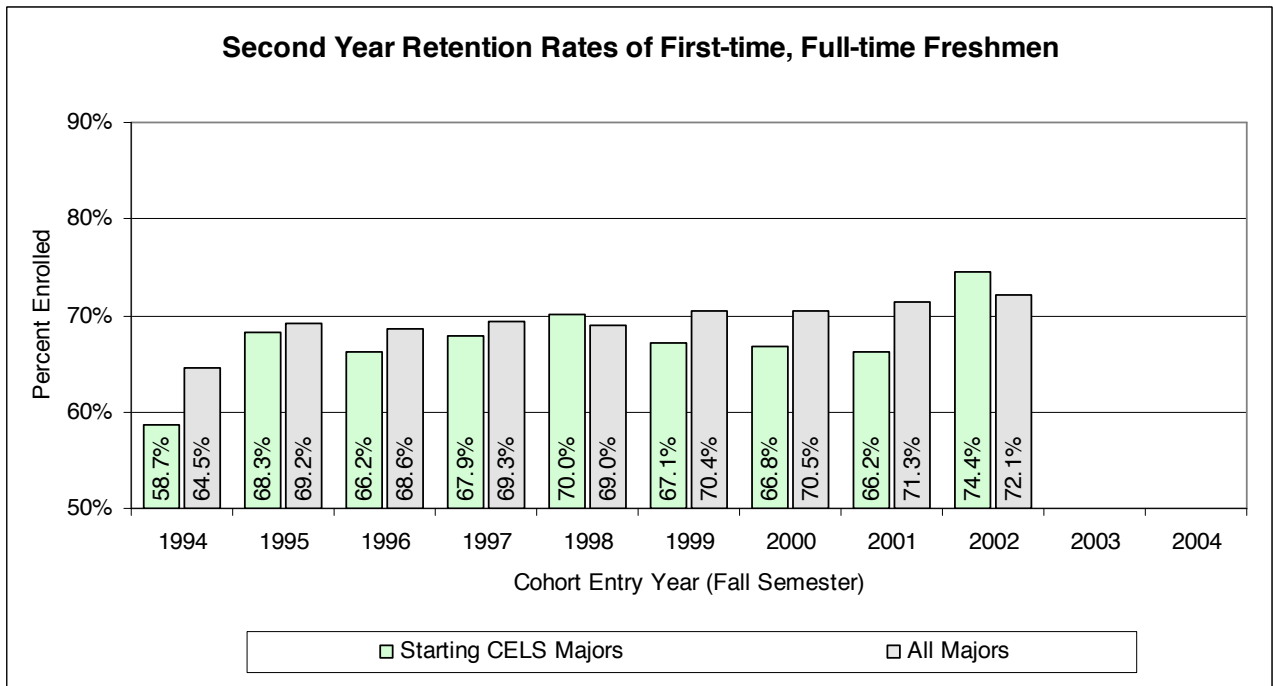
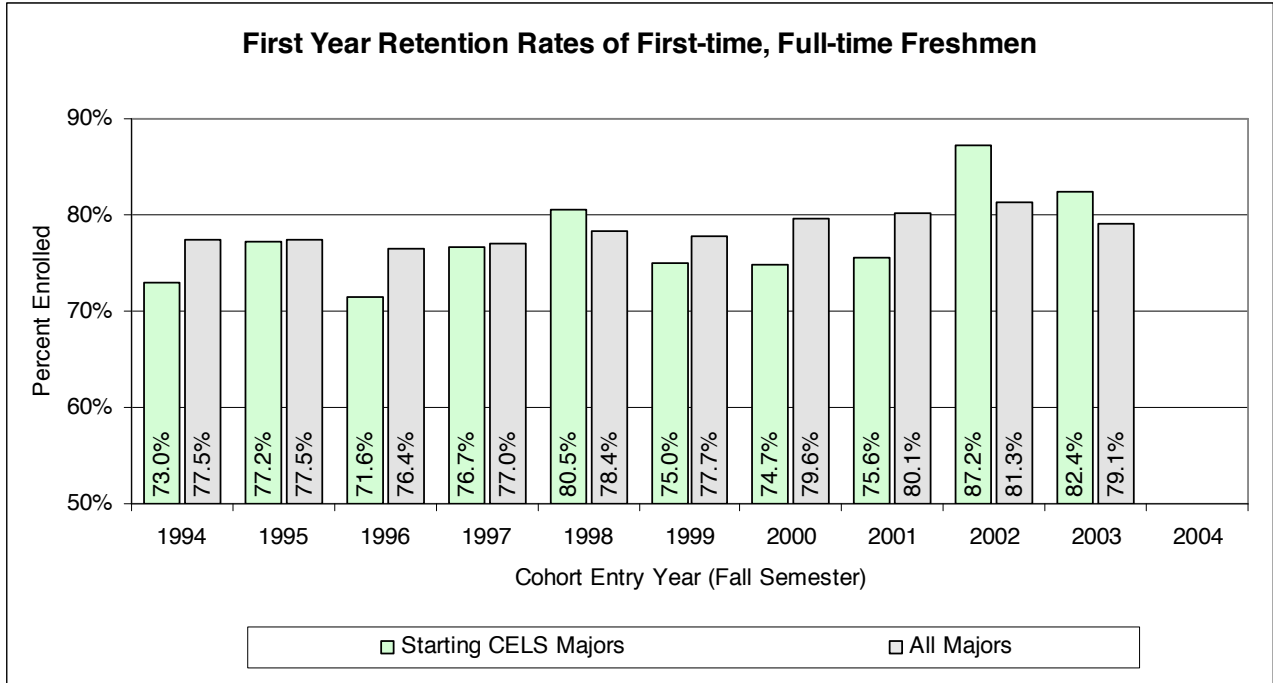
While the number of freshmen students generally has been increasing over the decade, the number of first semester CELS majors declined from 1994 to 1999 and then remained relatively level.



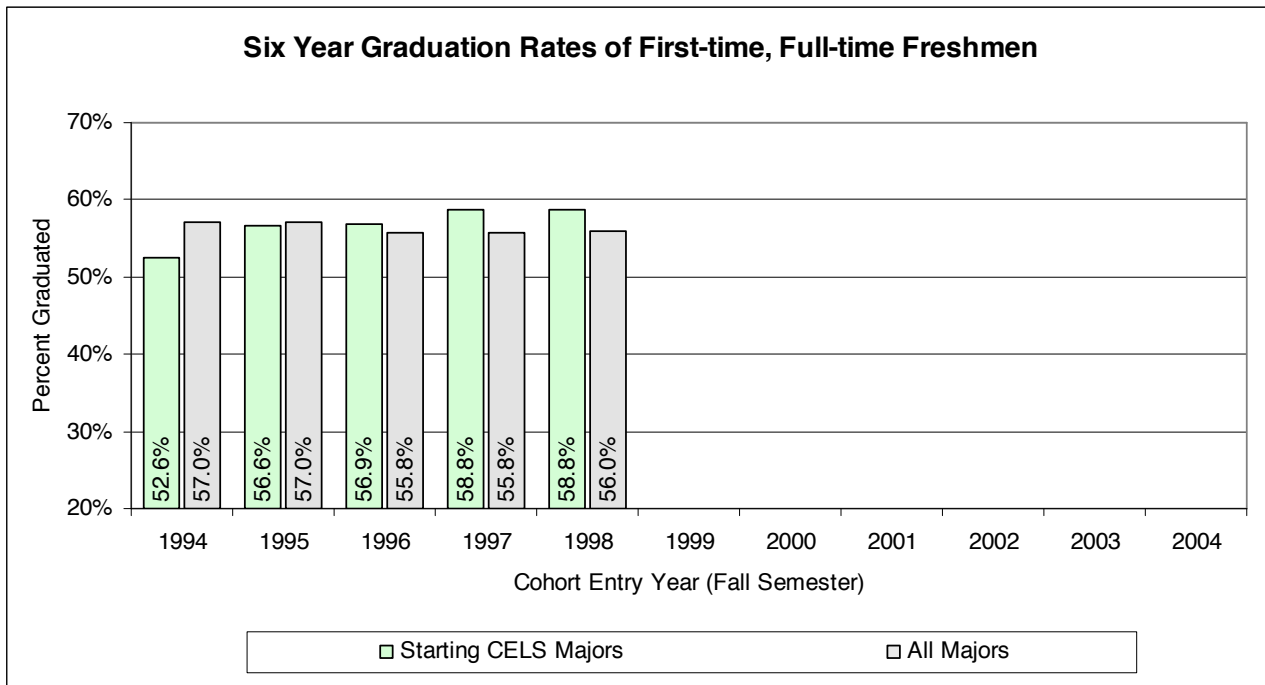
SAT composite scores and High School Class Rank data indicate that starting CELS majors are better prepared than the full freshman cohorts for all majors. Scores averaged 13 points higher and the proportion of students in the top tenth class rank averaged 3% more. Note that the shift between 1995 and 1996 results primarily from re-centering calculations by the test administrator.



First and second year retention rates of starting CELS majors compared to those of the full freshman cohorts lag on average 1.1% for the first year and 2.1% for the second. The trend may be showing a reversal beginning in 2002 when the rate for CELS majors exceeded that for all majors.



Six-year graduation rates show that starting CELS majors have been improving and surpass the rate for students in all majors in the last three years.



Discussion

Analysis of retention and graduation rates has become a standard practice and results are regularly reported as measures of accountability. Definitions have become well-established and permit easy comparisons between institutions and over time. However, when the analysis is conducted for units below the institutional level, the situation becomes more complicated. Colleges primarily are interested in the success of students majoring in the disciplines they offer. Yet the freedom students have to switch majors both inside and outside of a particular college makes it difficult to define to which unit the student actually “belongs.” Is it to the college of the initial major? If so, what about the growing segment of students whose majors are “undecided?” Is it to the college that grants the degree? If so, what about the students who do not graduate?

For this report the simplest condition is to track the outcomes of students who began their academic work in majors presently offered by the College of Life Science and the Environment (CELS). A number of the disciplines that were offered by or shared with the College of Arts and Sciences (specifically bioscience, geoscience, and marine affairs majors) are combined with the exclusively CELS majors to maximize the consistency of the dataset.

Over the time period the number of starting CELS students in a cohort ranges between 190 and 334. This represents on average about 11 percent of the entire freshmen cohort, although the segment varies between 7.7 and 17.7 percent, with the smaller shares occurring recently. The decline may indicate that CELS majors are less popular than before or that students are less certain about choosing one when they enter college.

Starting CELS students may be marginally better prepared for college work than the freshman cohorts in general. Although statistical tests have not been run to determine significant differences, the SAT scores and proportion of students ranked in the top tenth of their high school classes are consistently higher for CELS students. National research consistently correlates better preparation in high school with college persistence and completion.

Retention rates after one and two years for CELS students fall short of the full freshman cohorts by a small amount for most of the time period. The largest gaps occurred in 1999 – 2001, but it appears that the trend may have reversed in 2002.

While graduation rates for the overall freshman cohorts have remained level, the trend for CELS majors is decidedly positive with improvements year-to-year. The difference grew to 2.8% for the 1998 cohort, the latest for which a full six years of elapsed time after the initial semester is available. In contrast, the 1994 CELS majors lagged -4.4% below the overall rate.

It is important to emphasize that this report is only an initial investigation of the available data. Analysis of results by gender, residency, and race/ethnicity have yet to be completed and will reveal more useful information. Beyond that, additional work also is needed to see if students who initially start in the College actually persist in it as well as to investigate the patterns for students who begin elsewhere but eventually find their way into CELS.

Appendix I.

Academic plans identified as CELS majors for this analysis are shown below. The data are derived from two sources: the legacy Student Records System which functioned until the Fall 2003 semester when it was replaced by the eCampus system. Similar majors are combined under a group label to simplify re-alignment changes during the past decade.

Old Code	Major name	New Code	Group Label
AS008BOS	Biochemistry - BS	AS_BCH_BS	BIOCHEMISTRY
AS051BOA	Biology - BA	AS_BIO_BA	BIOLOGY-BA
AS010BOS	Biological Sciences – BS	AS_BSC_BS	BIOSCIENCE-BS
AS111BOS	Zoology - BS	AS_ZOOL_BS	BIOSCIENCE-BS
AS009BOS	Botany	AS_BTNY_BS	BIOSCIENCE-BS
AS225BOS	Env Plant Biology - BS	AS_EBIO_BS	PLANTBIOLOGY
RD225BOS	Env Plant Biology - BS	EL_EBIO_BS	PLANTBIOLOGY
AS024BOA	Geology - BA	AS_GEOL_BA	GEOLOGY-BA
RD274BOS	Geology - BS	EL_GEOL_BS	GEOLOGY-BS
AS024BOS	Geology - BS	AS_GEOL_BS	GEOLOGY-BS
RD024BOS	Geosciences	EL_GEOS_BS	GEOLOGY-BS
AS026BOS	Geology and Geolog Ocg - BS	AS_GOCG_BS	GEOLO-OCEANO
RD275BOS	Geology and Geolog Ocg - BS	EL_GOCG_BS	GEOLO-OCEANO
AS062BOA	Marine Affairs - BA	AS_MAFF_BA	MARINE-AFF-BA
RD263BOA	Marine Affairs	EL_MAFF_BA RD	MARINE-AFF-BA
AS062BOS	Marine Affairs - BS	AS_MAFF_BS RD	MARINE-AFF-BS
RD263BOS	Marine Affairs - BS	EL_MAFF_BS RD	MARINE-AFF-BS
---- new ----	Coastal Marine Policy Mgt	EL_CMPM_BS	MARINE-AFF-BS
RD207BOS	Microbiology - BS	EL_MICR_BS	MICROBIOLOGY
AS007BOS	Microbiology - BS	AS_MICR_BS	MICROBIOLOGY
RD243BOS	Clinical Lab Science - BS	EL_CLSC_BS	MICROBIOLOGY
RD280BOS	Aquacult&Fishery Tech - BS	EL_AFTC_BS	MARINE-RESOURCE
RD260ASC	Fisheries and Marine Tech	EL_FMT_ASC	MARINE-RESOURCE
RD262BOS	Marine Resource Devel- BS	EL_MRDV_BS	MARINE-RESOURCE
RD240BOS	Agricultural & Res Tech - BS	EL_AGRT_BS	AGRIC-TECH
RD210BOS	Animal Sci & Technology - BS	EL_ANSC_BS	ANIMAL-SCIENCE
RD235BOS	Dietetics - BS	EL_DIET_BS	FOOD-SCIENCE
RD238BOS	Food and Nutritional Sci - BS	EL_FNSC_BS	FOOD-SCIENCE
RD230BOS	Food Science & Nutrition - BS	EL_FSNT_BS	FOOD-SCIENCE
RD249BOS	Environ Econ & Mgt - BS	EL_EEMG_BS	ENVIR-ECON
RD258BOS	Environmental Management	EL_EMGT_BS	ENVIR-SCIENCE
RD201BOS	Environmental Sci and Mgt-BS	EL_ESMG_BS	ENVIR-SCIENCE
RD250BOS	Natural Resources - BS	EL_NRES_BS	ENVIR-SCIENCE
RD229BLA	Landscape Architecture	EL_LDA_BLA	LANDSCAPE
RD227BOS	Plant Science - BS	EL_PLSC_BS	PLANT-SCIENCE
RD226BOS	Plant Science and Tech - BS	EL_PLST_BS	PLANT-SCIENCE
RD261BOS	Resource Econ & Comm - BS	EL_RECM_BS	RESOURCE-ECON
RD259BOS	Soil and Water Resources - BS	EL_SWRS_BS	SOIL&WATER
RD247BOS	Water and Soil Science - BS	EL_WSCI_BS	SOIL&WATER

RD270BOS	Urban Affairs - BS	EL_UAFF_BS	URBAN-AFFAIRS
RD906BOS	Undeclared CELS – BS	EL_UDEC_BS	CELS-UNDCL/WAIT
ZN201BOS	Waiting for Env Life Science	EL_WEL_BOS	CELS-UNDCL/WAIT
RD228BOS	Urban Hort & Turf Mgt – BS	EL_UHTM_BS	HORT&TURF MGT
RD228BOS	Envir Hort & Turf Mgmt - BS	EL_EHTM_BS	HORT&TURF MGT
RD246BOS	Wildlife Biology & Mgmt - BS	EL_WBMG_BS	WILDLIFE-BIOL
RD202BOS	Wildlife Conservation Biol -BS	EL_WCB_BS	WILDLIFE-BIOL