

**El Camino College
Enrollment Growth and Academic Course Performance
Traditional vs. Distance Education Courses, Spring 2011**

This study chronicles the recent growth of online course offerings and enrollments at El Camino College (ECC) and compares academic performance in these courses with their traditional classroom counterparts. Whereas past studies have focused on Fall offerings, this study compares Spring terms. Like terms (spring to spring rather than fall to spring) are used because scheduling patterns and faculty course loads are more likely to follow similar patterns. This gives a better indication of the growth or change in Distance Education (DE).

Student Demographics

Before discussing the academic performance of students in DE courses, it is important to know who these students are. Figure 1 below shows the basic demographic data for the 2,120 students who enrolled in a DE course during the Spring 2011 term. Distance Education students are largely female. More than 2 out of 3 DE students are women. Most of the students are enrolled in less than 12 units for the term. In terms of age and ethnicity, DE students are very similar to the overall student population of El Camino College. The major races/ethnicities are all within a few percentage points of the campus population. Over 50% of those enrolled in DE courses are in the typical college going age range of 18 to 24 years. Another 32% are between 25 and 39 years old. For the most part, DE students represent the same population as campus students with the exception of Gender. The demographic data presented show one semester but similar results can be seen over time.

**Figure 1: Student Demographics
Online Classes- Spring 2011**

Gender	Percent
Female	68.2%
Ethnicity	
Black	21.2%
Asian	16.5%
Latino	31.0%
White	21.7%
Enrollment Status	
Full-Time	37.2%
Age Group	
<18	0.8%
18-20	28.8%
21-24	27.3%
25-29	17.3%
30-39	15.1%
40-49	7.8%
50+	2.8%

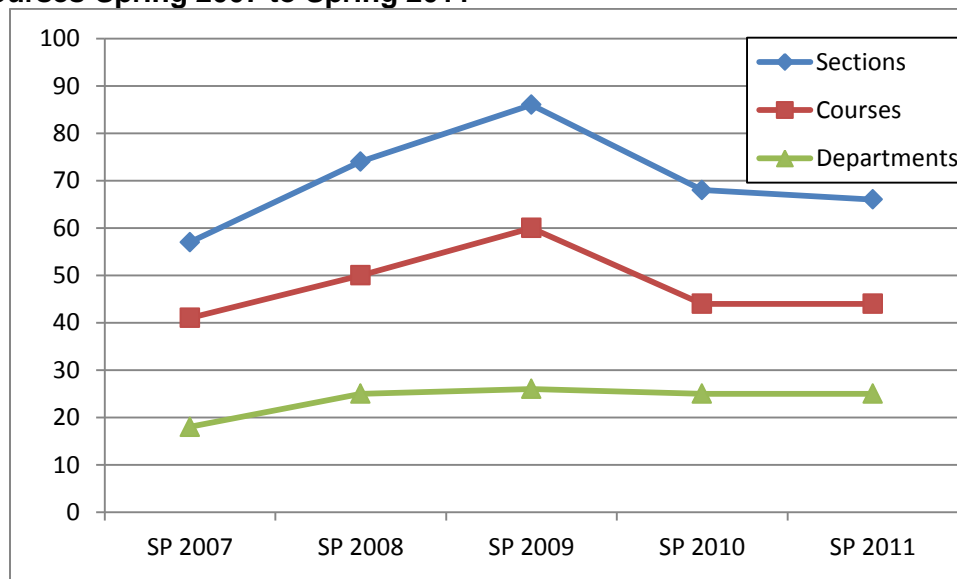
ENROLLMENT GROWTH

The demand for distance education offerings led to an increase in departments, courses, and sections offered which peaked in Spring 2009. During this term, 86 sections accounted for 3,314 DE enrollments. This includes online, hybrid, and telecourses (no longer offered). In the last two years, the number of sections and the number of seats filled have decreased. This is likely due to the economy and a decreased budget since the average number of seats per section have continued to rise, suggesting that the demand remains. However, the decrease means there were 600 fewer DE enrollments and 129 fewer FTES during Spring 2011 than in Spring 2009.

**Figure 2: Course, Section and Enrollment Growth
Online Classes- Spring 2007 to Spring 2011**

	SP 2007	SP 2008	SP 2009	SP 2010	SP 2011
Departments	18	25	26	25	25
Courses	41	50	60	44	44
Sections	57	74	86	68	66
Seats	1,918	2,926	3,314	2,800	2,742
Avg Sec. Size	34	40	39	41	42
Online FTES	261	383	453	342	324

**Figure 3: Department, Course, and Section Trends
Online Courses-Spring 2007 to Spring 2011**



Source: CCC Chancellor's Office

COURSE OFFERINGS

The following table shows all online courses offered Spring 2011, ordered by department and course. Section and census date seat counts are included. The majority of online courses are UC and/or CSU transferable.

**Figure 4: Online Course Offerings
Spring 2011**

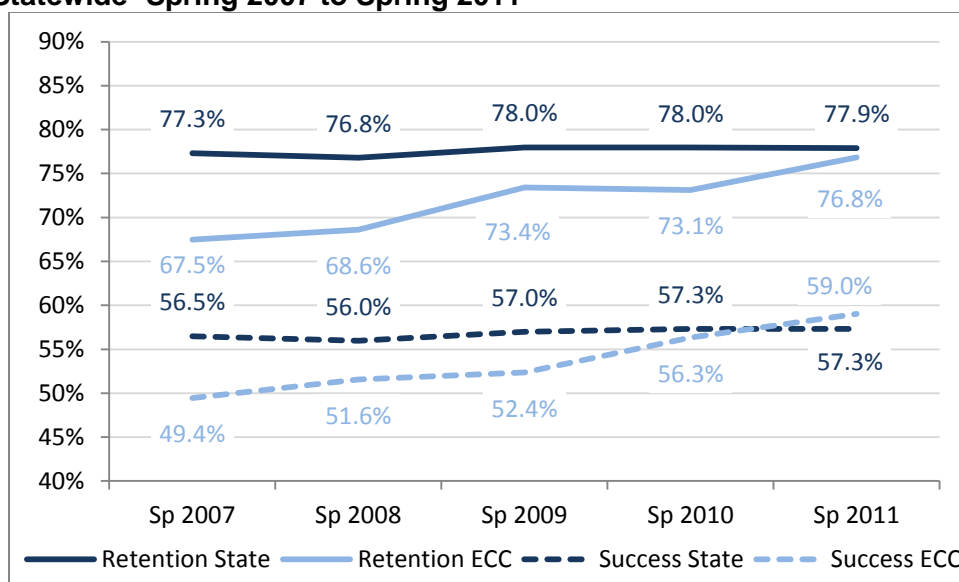
Course	Course Title	Sections	Seats	Transferable
AJ-100	Intro to Admin of Justice	1	47	Yes
ANAT-30	Essentls Anatomy/Physiol	1	42	Yes
ANTH-1	Intro to Physical Anthropology	1	49	Yes
ANTH-2	Intro Cultural Anthropology	1	49	Yes
ART-1	Art/Visual Cultr in Modrn Life	1	42	Yes
ART-2	Hist West:prehist-Gothic	1	53	Yes
BUS-15	Business Mathematics	1	32	No
BUS-19	Principles Retail Management	1	36	Yes
BUS-1A	Financial Accounting	2	56	Yes
BUS-1B	Managerial Accounting	1	25	Yes
CADD-31ABCD	Orientation to CATIA	1	15	Yes
CDEV-103	Child Growth and Development	1	56	Yes
CDEV-104	The Home, School, Community	1	64	Yes
CDEV-108	The Preschool Child	1	47	Yes
CDEV-131	Suprvsing/Mentornng Adults	1	25	Yes
CDEV-150	Survey Children Special Needs	1	46	Yes
CH-1	Persnl/Communty Health Issues	4	223	Yes
CIS-13	Intro-Comptr Info System	2	84	Yes
CIS-142	Implmnt/Admin Ntwrk Cisco 3	1	30	No
CIS-30	Introduction to eCommerce	1	39	No
DANC-1	Dance Appreciation	2	97	Yes
ECON-1	Principls of Econ - Macroecon	1	47	Yes
ENGL-1A	Reading and Composition	4	119	Yes
ENGL-1C	Critical Thinking/Comp	2	62	Yes
ENGL-27	Children's Literature	1	38	Yes
ENGL-84	Developmental Reading/Writing	2	72	No
HIST-102	U.S. History - 1877-Present	2	80	Yes
HIST-140	History of Early Civilizations	1	37	Yes
HUMA-1	An Introduction to the Humanities	1	39	Yes
JOUR-12	Mass Media and Society	1	38	Yes
LAW-4	Legal Environmnt Business	1	42	Yes
MATH-150	Elemntry Statistcs W/Probabltly	1	45	Yes
MATH-40	Elementary Algebra	2	74	No
MATH-73	Intermediate Algebra Gen Ed	2	77	No
MUSI-11	Music Appreciation-Survey	2	90	Yes
NFOO-11	Nutrition	1	53	Yes
OCEA-10	Intro to Oceanography	1	31	Yes
PHIL-3	Ethics and Society	1	32	Yes
PHIL-7	Philosophy of Religion	1	36	Yes
POLI-1	Governments US/Calif	4	185	Yes
PSYC-16	Lifespan Development	1	54	Yes
PSYC-5	General Psychology	4	202	Yes
SOCI-101	Introduction to Sociology	2	101	Yes
THEA-1	Intro to the Theatre	1	31	Yes

ACADEMIC PERFORMANCE

This section addresses the academic performance of students in online courses. Metrics for assessing academic performance include the success and retention rates of students taking distance education courses. First, success and retention comparisons for the entire El Camino College distance education program are compared with the overall state rates. Next, success rates are compared for courses which are offered in both traditional and distance modes. These side by side comparisons have been clustered by academic division and disaggregated by course.

Figure 5 illustrates the comparison between local success and retention rates with those of the state for all distance education offerings. The California Community College Chancellor's Office defines success rates as the percentage of students who receive a grade of A, B, C, or P. Retention rates are the percentage of students who stayed in the course until the end, thus did not receive a notation of DR or W. Figure 5 shows the success rates for distance education in the state have remained steady at just under 60%. The success rates for ECC have been increasing over the years, increasing by 10 points within the last five years and now stand on par with state rates. The same can be said for retention rates. The state rate has been consistently around 78%. The ECC rate has risen from 67.5% to 76.8% within the last five years.

**Figure 5: Success and Retention Rates for Online Courses
Local vs Statewide- Spring 2007 to Spring 2011**



As a whole, there does not appear to be much difference in the outcomes for online and traditional courses although there are some noticeable differences in outcomes for individual courses which are taught both online and on campus. Overall, online success rates were about 6 points lower than traditional classroom, while online retention was 5 points lower. Figure 6 examines students' academic performance in online vs. traditional classes in terms of successful course completion (success rate) and retention in the course. The difference in rates is found in the columns at the right where negative differences indicate traditional courses are performing better and bold shaded numbers show courses where online sections have better outcomes.

Even though the overall difference is not great, examination of the chart shows some very large differences in outcomes for certain classes, departments, or divisions. For example, students taking the CDEV courses online were roughly 20% less successful than their traditional counterparts. Whereas almost 80% of the traditional students successfully completed the course, fewer than 60% of the DE students did so. Further examination would need to occur in order to investigate commonalities in the courses with large differences in outcomes. On the surface, there does not seem to be any links. General survey courses in the Fine Arts division seem to be similarly structured yet the students in the online sections were 20% more successful in Art-1 and Musi-11 than the traditional students. But students in Danc-1 and Thea-1 were less successful in online sections. The courses found in the Natural Sciences division exhibit online success rates that are less than half of the traditional rates. They also display some very low online retention rates. Industry and Technology division also has technical courses with high retention rates but their success rates vary from 33 to 81%. The math courses, on the other hand would seem to be as technical as the science courses, yet online sections have higher retention and success rates than the traditional sections. It could be argued that math, being offered in the hybrid format performs better because it offers a blend of hybrid and traditional qualities, but Bus-1A and Bus1-B are also offered as hybrid sections and have success rates around 50% and are lower than the traditional sections. Graphic representations of the success rate comparisons for each course are available in Appendix A.

Figure 6: Student Success and Retention Rates by Course Online vs. Traditional Sections- Spring 2011

Course	Traditional			Online			Difference	
	Total	Successful	Retained	Total	Successful	Retained	Successful	Retained
Behavioral and Social Sciences								
ANTH-1	422	60.4%	80.6%	49	53.1%	77.6%	-7.4%	-3.0%
ANTH-2	329	66.9%	86.6%	49	61.2%	83.7%	-5.6%	-3.0%
CDEV-103	371	79.2%	89.5%	56	55.4%	80.4%	-23.9%	-9.1%
CDEV-104	98	77.6%	87.8%	64	57.8%	90.6%	-19.7%	2.9%
ECON-1	402	66.4%	79.9%	47	80.9%	89.4%	14.4%	9.5%
HIST-102	519	72.6%	89.0%	80	62.5%	87.5%	-10.1%	-1.5%
HIST-140	255	71.8%	88.2%	37	62.2%	83.8%	-9.6%	-4.5%
PHIL-3	232	57.3%	69.4%	32	37.5%	50.0%	-19.8%	-19.4%
PHIL-7	39	48.7%	56.4%	36	36.1%	63.9%	-12.6%	7.5%
POLI-1	946	64.1%	83.3%	185	66.5%	85.4%	2.4%	2.1%
PSYC-16	51	64.7%	76.5%	54	83.3%	94.4%	18.6%	18.0%
PSYC-5	1,096	65.6%	84.5%	202	45.0%	71.3%	-20.6%	-13.2%
SOCI-101	772	76.4%	85.5%	101	63.4%	76.2%	-13.1%	-9.3%
Business								
BUS-1A	553	58.0%	73.2%	56	51.8%	55.4%	-6.3%	-17.9%
BUS-1B	243	71.2%	81.9%	25	56.0%	80.0%	-15.2%	-1.9%
CIS-13	811	63.5%	78.3%	84	52.4%	69.0%	-11.1%	-9.3%
LAW-4	46	65.2%	84.8%	42	59.5%	76.2%	-5.7%	-8.6%
Fine Arts								
ART-1	638	63.8%	82.8%	42	85.7%	85.7%	21.9%	3.0%
ART-2	156	75.6%	92.3%	53	69.8%	75.5%	-5.8%	-16.8%
DANC-1	337	72.7%	85.5%	97	53.6%	71.1%	-19.1%	-14.3%
MUSI-11	444	52.7%	79.3%	90	72.2%	86.7%	19.5%	7.4%

Course	Traditional			Online			Difference	
	Total	Successful	Retained	Total	Successful	Retained	Successful	Retained
THEA-1	83	74.7%	86.7%	31	61.3%	77.4%	-13.4%	-9.3%
Health and Physical Science								
CH-1	1,214	70.5%	84.8%	223	58.7%	81.6%	-11.8%	-3.2%
Humanities								
ENGL-1A	2,196	64.3%	78.6%	119	53.8%	71.4%	-10.6%	-7.2%
ENGL-1C	1,317	75.5%	85.3%	62	54.8%	61.3%	-20.6%	-24.0%
ENGL-27	29	55.2%	75.9%	38	52.6%	68.4%	-2.5%	-7.4%
ENGL-84	960	57.5%	81.3%	72	37.5%	50.0%	-20.0%	-31.3%
HUMA-1	36	61.1%	77.8%	39	64.1%	69.2%	3.0%	-8.5%
JOUR-12	80	73.8%	88.8%	38	55.3%	78.9%	-18.5%	-9.8%
Industry and Technology								
AJ-100	149	68.5%	89.9%	47	55.3%	80.9%	-13.1%	-9.1%
CADD-31ABCD	44	84.1%	93.2%	15	33.3%	80.0%	-50.8%	-13.2%
NFOO-11	230	82.6%	88.3%	53	81.1%	88.7%	-1.5%	0.4%
Mathematical Sciences								
MATH-150	699	54.2%	75.1%	45	68.9%	84.4%	14.7%	9.3%
MATH-40	1,128	53.4%	76.2%	74	56.8%	70.3%	3.4%	-5.9%
MATH-73	1,374	47.1%	70.2%	77	58.4%	77.9%	11.4%	7.7%
Natural Sciences								
ANAT-30	152	65.1%	72.4%	42	28.6%	45.2%	-36.6%	-27.1%
OCEA-10	279	73.5%	85.7%	31	32.3%	58.1%	-41.2%	-27.6%

In order to make a comparison of the academic rigor of online courses in comparison with traditional courses, improvement rates are commonly used. If a student completes one level of a sequence and then completes the next level of the sequence with a passing grade, it is considered *improvement*. The presumption is the lower course in the sequence should prepare a student for success in the next level of the sequence. If the academic rigor of online courses is comparable to the academic rigor of traditional courses, there should be little difference in the success rates for the second course when comparing outcomes based on whether the first course was taken online or on campus.

Since not every course must be followed by another, only courses that serve as prerequisites have been tracked. However, because students are not required to take the follow-up course, students who did enroll in the follow-up course for the first time during the Spring 11 term were reverse tracked to determine whether the prerequisite course was taken online. Ten of these courses had students enroll in the subsequent course during the Spring 2011 term. The success rates for these courses have been calculated based on the mode in which the prerequisite course was taken. A comparison of these rates is found in Figure 7 below.

The number of students in the Spring 2011 term who took their prerequisite course online is too small to make any definitive statements but some of the trends are worth investigation. For instance, despite the evidence which shows low success rates for online sections of Psyc-5, Engl-1A, and Engl-84 when compared to sections taught traditionally, students who passed these courses through either mode complete the next level course at comparably high rates. Conversely, despite the higher success rates in DE math sections compared to those taught on

campus, student success rates decrease drastically at the next level course when the prerequisite is taken through Distance Education.

Figure 7: Improvement Rates by Prerequisite Course Online vs. Traditional Courses (Selected Courses) Spring 2011

Prerequisite Course	Traditional		Distance Education	
	N	%	N	%
BUS-1A	208	73.6%	8	87.5%
CADD-31ABCD	6	50.0%	4	100.0%
CDEV-103	90	88.9%	9	100.0%
CIS-13	33	69.7%	3	100.0%
ECON-1	162	83.3%	7	57.1%
ENGL-1A	1,433	75.4%	22	72.7%
ENGL-84	626	71.1%	20	80.0%
MATH-40	512	53.7%	11	18.2%
MATH-73	416	53.6%	11	36.4%
PSYC-5	142	73.9%	17	70.6%
Total	3,635	69.6%	112	68.8%

CONCLUSION

Distance Education offerings have experienced a decline in the last two years after peaking in 2009, however enrollments remain strong. Overall, the success and retention rates for online offerings have continued to rise and were on par with state distant education rates for Spring 2011. There are some courses where the outcomes are much lower in online sections compared to on campus sections. In these instances, divisions might want to review the course material as well as the online resources and presentation to see if they are compatible with positive online implementation. In instances where they are not, online instruction may need to be revised or abandoned altogether. Likewise, it is important these classes properly prepare students for the next level. When taking all courses which have a prerequisite offered online, there seems to be no real difference in success in a course based on how the prerequisite was taken. However, some differences occur in the outcomes of specific courses when compared based on how the prerequisite was taken. It might be necessary to review these course sections to ensure students are receiving the proper preparation needed to succeed in future courses.

Appendix A: Divisional Success Rate Comparison for Distance Education and Traditional Sections- Spring 2011

This is a graphic representation of the success rates found in Figure 5.

