

Los Medanos College
Program Review Data for
Computer Science and Computer Network Technology (CNT)

Prepared by the Office of Institutional Research

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Background

This report provides the department with three-year trends on indicators on the following areas:

- Enrollment
- Productivity
- Student Success

For Vocational Education programs, data on VTEA core indicators are provided.

I. Enrollment: This section provides a three-year trend on student enrollment by headcount as of first census. Because our demographic make up is rapidly changing, figures by ethnicity are also provided.

II. Productivity: In this section, three-year trends are provided for: FTEF/FTES, FTES, Part-time FTEF, full-time FTEF, and full-time Staff. For most measures, college figures are provided for comparison purposes.

III. Student Success. This section consists of: Retention Rates, Success rates, number of students with declared major who completed 18 units or more, and number of degrees and certificates awarded. In this section, statistics by ethnicity are also provided.

Note: ALL DATA is for the academic year (Fall and Spring only).

Definitions for each measure are provided in the footnotes.

Data Sources: The two main sources of information are: 1. DataTel and the Research Data Warehouse. Productivity figures were provided by the Business Office.

STATISTICS

HEADCOUNT ENROLLMENT (Unduplicated at Census): Student headcount in Computer Science decreased from 1981 in 2002-2003 to 1756 in 2004-2005, a decrease of 225 students. When examining student enrollment by ethnicity, it is observed that the proportion of Asians increased by 1% and of Hispanics by 5% in the last three years. The proportion of White students decreased 2%. The ethnic composition of students in the program has generally reflected the ethnic composition of the students in the institution in the last three years.

Headcount Enrollment: Computer Science/ CNT

	2002-2003		2003-2004		2004-2005		3-Year Change	
	Program	College	Program	College	Program	College	Program	College
	N=1981	N=12946	N=1741	N=11527	N=1756	N=12808	-225	-138
							-11%	-1%
Asian	6%	5%	6%	6%	6%	6%	0%	1%
African American (non-Hispanic)	16%	13%	18%	13%	17%	14%	1%	1%
Filipino	7%	6%	7%	6%	7%	6%	0%	0%
Hispanic	18%	21%	20%	23%	23%	24%	5%	3%
American Indian/ Alaskan Native	1%	1%	1%	1%	1%	1%	0%	0%
Other Non-White	2%	3%	2%	3%	2%	2%	0%	-1%
Pacific Islander	1%	1%	1%	1%	1%	1%	0%	0%
White non-Hispanic	43%	44%	41%	43%	41%	43%	-2%	-1%
Unknown	6%	7%	5%	5%	2%	3%	-4%	-4%
All Students	100%	100%	100%	100%	100%	100%	-	-

NOTE: Percentages may not add up to 100% due to rounding.

SEATCOUNT ENROLLMENT (Duplicated at Census): Seatcount enrollment in Computer Science decreased from 3133 in 2002-2003 to 2468 in 2004-2005, a decrease of 665 seats for the last three years. When examined by ethnicity, seatcount enrollment increased for African-Americans by 2% and for Hispanics by 5% in the last three years. Whites decreased 3% in the last three years.

Seatcount Enrollment: Computer Science/ CNT

	2002-2003		2003-2004		2004-2005		3-Year Change	
	Program	College	Program	College	Program	College	Program	College
	N=3133	N=43127	N=2545	N=40792	N=2468	N=42549	-665	-578
							-21%	-1%
Asian	6%	5%	6%	6%	6%	6%	0%	1%
African American (non-Hispanic)	16%	14%	17%	14%	18%	15%	2%	1%
Filipino	7%	6%	6%	6%	7%	6%	0%	0%
Hispanic	17%	20%	18%	22%	22%	24%	5%	4%
American Indian/ Alaskan Native	1%	1%	2%	1%	1%	1%	0%	0%
Other Non-White	2%	3%	3%	3%	2%	3%	0%	0%
Pacific Islander	1%	1%	1%	1%	1%	1%	0%	0%
White non-Hispanic	44%	43%	42%	43%	41%	43%	-3%	0%
Unknown	7%	7%	5%	5%	2%	2%	-5%	-5%
All Students	100%	100%	100%	100%	100%	100%	-	-

NOTE: Percentages may not add up to 100% due to rounding.

PRODUCTIVITY: Productivity (FTES/FTEF) for LMC's Computer Science program increased from 15.7 in 2002-2003 to 17.7 in 2004-2005, an increase of 2.0 in the last three years. When compared the productivity figures of LMC's Computer Science to the productivity figures of the sister colleges in the last three years, it is observed that LMC's productivity has been higher.

Full-time FTEF decreased from 6.26 in 2002-2003 to 4.44 in 2004-2005, a decrease of 1.82. Part-time FTEF also decreased from 8.49 in 2002-2003 to 5.05 in 2004-2005, a decrease of 3.44 in the last three years. Classified staff for Computer Science has stayed constant at 1.42 for the last three years.

FTES/FTEF: Computer Science/ CNT

	2002-2003	2003-2004	2004-2005	Change
LMC Program	15.7	17.1	17.7	+2.0
CCC*	14.3	16.7	10.4	-3.9
DVC*	13.2	14.3	13.0	-.2
State Average				

Productivity (FTES/FTEF) is defined as the average number of FTES earned per full-time equivalent instructor. FTES is defined as 525 student contact hours, based on a 15 hour weekly course load for 2 semester at 17.5 weeks per semester (15x2x17.5=525).

*Data obtained from COGNOS.

FTEF: Computer Science/ CNT

	2002-2003	2003-2004	2004-2005	Change
FT FTEF	6.26	4.62	4.44	-1.82
PT FTEF	8.49	5.37	5.05	-3.44
Classified FTEF	1.42	1.42	1.42	0

RETENTION RATES: Retention Rate for students in the Computer Science program has slightly decreased from 81% in 2002-2003 to 80% in 2004-2005, a 1% decrease. When compared to the college average, the retention rate of the program has been comparable except for 2003-2004. That year it was higher by 3%.

When examining retention rates by ethnicity for the last three years, it is observed that the retention rate for Filipinos increased by 1%. The retention rates for Asians decreased by 2%, for African-Americans by 1%, for Hispanics by 1%, for Pacific Islanders by 23% and for Whites by 1%.

Retention Rates: Computer Science/ CNT

	2002-2003		2003-2004		2004-2005		3-Year Change	
	Program	College	Program	College	Program	College	Program	College
	4,358	47,311	2,586	41,959	2,494	42,937	-1864	-4,374
Asian	86%	84%	88%	84%	84%	87%	-2%	3%
African American (non-Hispanic)	70%	73%	79%	73%	69%	72%	-1%	-1%
Filipino	86%	84%	89%	84%	87%	82%	1%	-2%
Hispanic	83%	82%	86%	81%	82%	82%	-1%	0%
American Indian/ Alaskan Native	74%	80%	94%	84%	74%	81%	0%	1%
Other Non-White	76%	81%	83%	80%	84%	79%	8%	-2%
Pacific Islander	90%	81%	92%	82%	67%	80%	-23%	-1%
White Non-Hispanic	83%	84%	87%	85%	82%	84%	-1%	0%
Unknown	82%	84%	82%	81%	82%	83%	0%	-1%
All LMC Students	81%	82%	85%	82%	80%	82%	-1%	0%
State Average		83%		83%		83%		0%

DEFINITION: Student is retained in the course to end of term. A, B, C, D, F, CR, NC, I grade notations.

MEASUREMENT: Percent of students retained in courses out of total enrolled in courses. The retention rate is calculated by dividing the numerator (number of students with A, B, C, D, F, CR, NC, I) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I).

SUCCESS RATES: Success rate for students in the Computer Science program fluctuated in the last three years. In 2002-2003 it was 58%, in 2003-2004 it increased to 61% and in 2004-2005, it decreased to 56%, 11% below the college average.

When examining success rates by ethnicity for the last three years, it is observed that the success rate for Asians increased by 4% and for African-Americans by 6%. The success rates for Filipinos decreased by 3%, for Pacific Islanders by 17% and for Whites by 3%. African-Americans have the lowest success rate of all groups.

Success Rates: Computer Science/ CNT

	2002-2003		2003-2004		2004-2005		3-Year Change	
	Program	College	Program	College	Program	College	Program	College
	4,358	47,311	2,586	41,959	2,494	42,937	-1864	-4,374
Asian	61%	71%	69%	72%	65%	74%	4%	3%
African American (non-Hispanic)	33%	51%	39%	51%	39%	50%	6%	-1%
Filipino	71%	70%	65%	71%	68%	70%	-3%	0%
Hispanic	55%	65%	63%	66%	55%	66%	0%	1%
American Indian/Alaskan Native	59%	69%	77%	70%	65%	64%	6%	-5%
Other Non-White	52%	61%	65%	65%	69%	65%	17%	4%
Pacific Islander	73%	63%	71%	61%	56%	61%	-17%	-2%
White Non-Hispanic	64%	72%	67%	74%	61%	72%	-3%	0%
Unknown	65%	69%	63%	66%	57%	67%	-8%	-2%
All Students	58%	67%	61%	68%	56%	67%	-2%	0%
State Average		67%		67%		67%		0%

DEFINITION: Student succeeds in the course to end of term. A, B, C, CR grade notations.

MEASUREMENT: Percent of students successful in courses out of total enrolled in courses. The success rate is calculated by dividing the numerator (number of students with A, B, C, CR) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I).

NUMBER OF STUDENTS WITH DELCARED MAJOR WHO COMPLETED 18 UNTS OR MORE:

The number of students with Computer Science as their major and with 18 units or more has decreased from 106 in 2002-2003 to 69 in 2004-2005, a decrease of 37 students.

**Number of Students with Declared Major who Completed 18 Units or More:
Computer Science/ CNT**

	2002-2003	2003-2004	2004-2005	3-Year Change
	N=106	N=68	N=69	-37
Asian	10%	12%	8%	-2%
African American (non-Hispanic)	13%	14%	13%	0%
Filipino	4%	3%	3%	-1%
Hispanic	15%	19%	19%	4%
American Indian/ Alaskan Native	3%	3%	3%	0%
Other Non-White	0%	2%	3%	3%
Pacific Islander	1%	0%	0%	-1%
White Non-Hispanic	48%	44%	46%	-2%
Unknown	6%	3%	5%	-1%
All Students	100%	100%	100%	-

NOTE: Percentages may not add up to 100% due to rounding.

NUMBER OF DEGREES AND CERTIFICATES: Thirteen Certificates have been awarded in Computer Science in the last three years.

Number of Degrees and Certificates: Computer Science

	2002-2003	2003-2004	2004-2005	3-Year Change
Degrees	n/a	n/a	n/a	n/a
Certificates	8	2	3	-5

VTEA Core Indicators for: Computer Science

CORE INDICATORS	2003-2004		2004-2005		2005-2006	
	College	Percentage above or below State Level	College	Percentage above or below State Level	College	Percentage above or below State Level
Core 1. Achievement	66.97	-11.79	65.88	-13.88	66.84	-12.92
Core 2. Completions	17.11	-42.71	29.51	-31.31	15.38	-45.44
Core 3a. Employment	76.32	-6.87	75.41	-7.78	66.23	-13.96
Core 3b. Employment Retention	84.62	1.87	90.24	7.39	80.00	-2.85
Core 4a Nontraditional Participation	N/R	N/R	N/R	N/R	N/R	N/R
Core 4b. Nontraditional completion	N/R	N/R	N/R	N/R	N/R	N/R

Data obtained from Chancellor Office VTEA reports.

DEFINITIONS

Indicator One: Skill Attainment – GPA of at least 2.0 on Forms and Grade C & Above on all other reports. Indicator *One* uses enrollments in Apprenticeship, Advanced Occupational or Clearly Occupational courses (coded with SAM Priority codes A-C). Students may be enrolled in more than one program area and may be included in more than one population grouping.

Indicator Two: Completions – Certificates, Degrees and Transfers

Indicator *Two* measures completions for vocational student "Leavers and Completers." Receipt of a certificate or degree or enrollment in a California four year public University with or without a degree is considered a completion. Military enrollment was not available for this cohort and was removed from all cohorts on three year presentations for the 2003-04 reports.

Indicator Three: Placement and Retention

Indicator *Three* measures *Placement* as UI covered employment or continuation at CSU/UC and *Retention* as three consecutive quarters in UI covered employment for vocational student "Leavers and Completers" in their first year after college. Students found continuing at UC or CSU are considered placed but are removed prior to calculations for retention. Retention is based solely on UI Employed Leavers and Completers.

Military enrollment and federal government employment, although available in previous years, were not available for this cohort. Placement status using military and federal employment was removed from all cohorts on three year presentations for the 2005-06 reports.

Indicator Four: Equity - Training Leading to Nontraditional Employment

Indicator *Four*, Participation, measures the participation of students in 2002-03 vocational courses (SAM code A –D) leading to employment where either gender is less than 25% of those employed using 1990 Census data.

Indicator *Four*, Completion, measures Completion of vocational student "Leavers and Completers" in training leading to employment where either gender is less than 25% of those employed using 1990 Census data.