



Tech Prep Report

*Prepared by, John P. F. Barkman, Ph.D.
Project Coordinator, Perkin's Research (RIE)*

*When you are referring to the data from this report,
please remember to acknowledge that it was done through
the Research and Institutional Effectiveness office
and that it was completed on
6/24/2014.*

Tech Prep Student Data

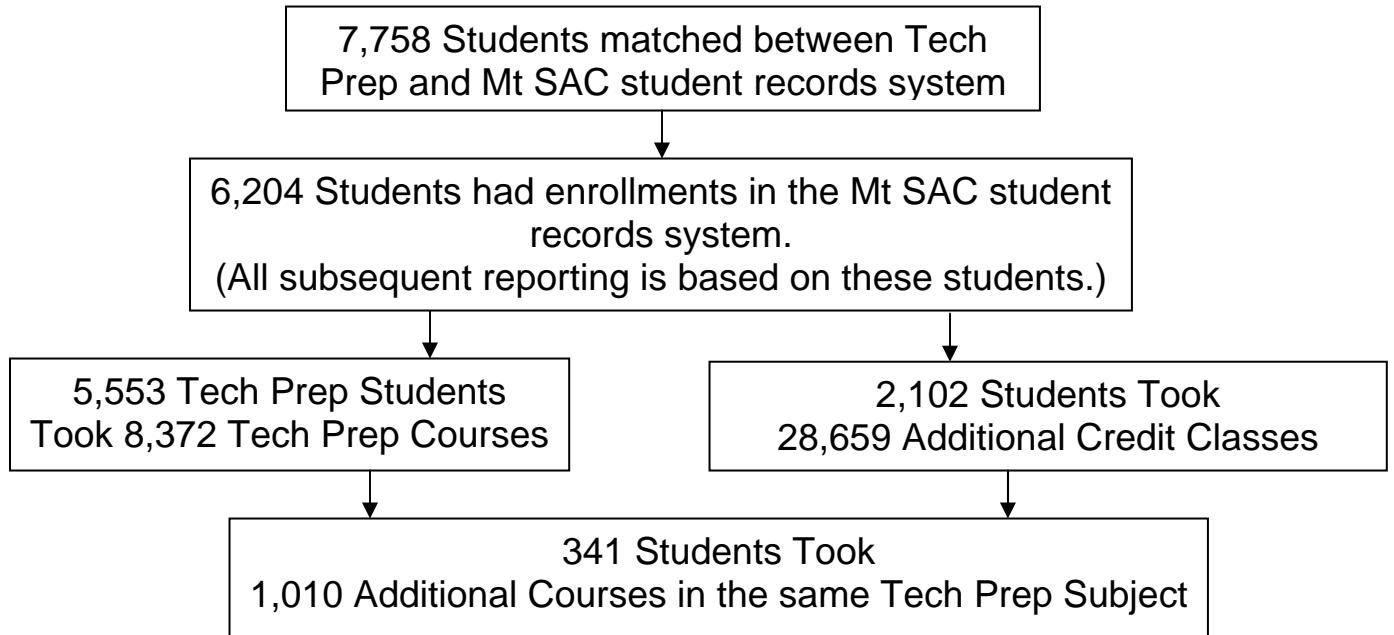
Data Utilized

The Tech Prep program at Mt. San Antonio College, currently maintains a database of the students who have participated in its program. As of the end of the 3/27/14, their database contained 9,740 records. When grouped by student name and other identifying information 8,276 potentially unique students were identified. This represents the number of students who have participated in the program. In addition, 7,157 official or unofficial transcripts were sent to 6,308 students. This represents the number of successful completions of Tech Prep coursework and the subsequent final exam. Student ID's were not collected for all the students in the database which made matching these records to the Mt. SAC student database a challenge. Nonetheless, 7,758 students were matched from the Tech Prep Student database to the Mt. San Antonio College student records system.

Coursework Taken

The Tech Prep database was joined to the Mt. San Antonio College data warehouse by student ID. This matched database contained 7,758 unique student records. From Fall 2005 to Winter 2014, 5,553 of these students had been awarded units in Tech Prep courses.

Figure 1



Student Demographics

The gender distribution of students who participated in the Tech Prep program is surprisingly diverse. The distribution of all students matched from the Tech Prep database to enrollments in the Mt. SAC database is 50% female and 47% male. Of the 2,102 students who completed additional coursework at Mt. SAC, 54% were female and 45% were male (see Figure2).

Figure 2

Tech Prep Students				
	All Matched		Completed Additional Credit Courses	
	<i>Count</i>	<i>Percent</i>	<i>Count</i>	<i>Percent</i>
Female	3123	50%	1144	54%
Male	2895	47%	946	45%
Unknown	186	3%	12	1%
Total	6204	100%	2102	100%

Tech Prep Courses Taken

The largest percentage of courses completed was in Business or “BUSA”, 33% among the Tech Prep designated courses. Another 18% of the Tech Prep designated completed coursework were “ADJU” or Administration of Justice classes. Figure 3 shows the number and percentage of enrollments in Tech Prep designated courses by the four digit code for the course.

Figure 3
***Tech Prep Courses
by Subject***

Subject	Count	Percent
ADJU	1503	18%
AGAN	227	3%
AGLI	15	0%
AGOR	98	1%
AIRC	5	0%
ANIM	30	0%
ARCH	271	3%
BUSA	2743	33%
CHLD	253	3%
CISB	514	6%
CISI	305	4%
CISP	7	0%
CISW	19	0%
CNET	76	1%
COMP	280	3%
CSCI	68	1%
EDT	82	1%
ELEC	43	1%
FASH	9	0%
FCS	13	0%
FIRE	13	0%
GRAP	203	2%
HRM	253	3%
ID	3	0%
INSP	130	2%
KIN	17	0%
MEDI	60	1%
MFG	50	1%
NF	363	4%
PE	1	0%
PHOT	285	3%
SIGN	408	5%
TRAN	4	0%
WELD	21	0%
Total	8372	100%

Tech Prep Courses Taken Fall 2005 to Winter 2013

BUSA 11 was the Tech Prep designated course taken by the largest number of students (11%).

Figure 4

Tech Prep Course	Enrollments	Percent	Tech Prep Course	Enrollments	Percent	Tech Prep Course	Enrollments	Percent
ADJU1	800	10%	CISP31	5	0%	HRM51	60	1%
ADJU3	703	8%	CISW15	19	0%	HRM52	13	0%
AGAN1	227	3%	CNET50	28	0%	HRM54	174	2%
AGLI16	15	0%	CNET52	12	0%	HRM81	6	0%
AGOR1	83	1%	CNET54	11	0%	ID100	3	0%
AGOR13	15	0%	CNET60	22	0%	INSP67	19	0%
AIRC20	5	0%	CNET62	3	0%	INSP70	69	1%
ANIM108	29	0%	COMP1	28	0%	INSP71	42	1%
ANIM130	1	0%	COMP12	1	0%	KIN19	17	0%
ARCH10	66	1%	COMP1A	217	3%	MEDI90	60	1%
ARCH11	85	1%	COMP2	2	0%	MFG11	9	0%
ARCH12	14	0%	COMP20	30	0%	MFG12	9	0%
ARCH14	23	0%	COMP50	2	0%	MFG15	3	0%
ARCH15	25	0%	CSCI145	68	1%	MFG17	3	0%
ARCH16	37	0%	EDT11	8	0%	MFG19	17	0%
ARCH18	21	0%	EDT16	74	1%	MFG38	9	0%
BUSA11	930	11%	ELEC50A	11	0%	NF61	363	4%
BUSA68	917	11%	ELEC50AL	1	0%	PE19	1	0%
BUSA72	896	11%	ELEC50B	8	0%	PHOT10	170	2%
CHLD5	169	2%	ELEC50BL	1	0%	PHOT4	115	1%
CHLD61	49	1%	ELEC51	9	0%	SIGN101	123	1%
CHLD64	35	0%	ELEC51L	1	0%	SIGN102	123	1%
CISB13	5	0%	ELEC56	11	0%	SIGN103	125	1%
CISB15	498	6%	ELEC56L	1	0%	SIGN104	37	0%
CISB21	4	0%	FASH10	9	0%	TRAN17	4	0%
CISB31	7	0%	FCS41	13	0%	WELD40	12	0%
CISI11	126	2%	FIRE1	13	0%	WELD51	4	0%
CISI11A	179	2%	GRAP10	181	2%	WELD70A	5	0%
CISP21	2	0%	GRAP16	22	0%			
						Total	8372	100%

Coursework Beyond Tech Prep Courses

2,102 students in the Tech Prep database (they may or may not have completed a Tech Prep course) completed 28,659 credit classes. The type of course most frequently taken by these students was English. These students took 3,801 English courses. Figure 5 shows the top 15 most completed subjects by the students in the Tech Prep database outside of the Tech Prep program. As the chart and graph show, the courses taken by these students are primarily general education classes. A complete list of subjects taken is shown in figure 6 below.

Figure 5

Top Ten Subjects Taken

Subject	Enrollments	Percent
ENGL	3801	13.26%
MATH	3241	11.31%
CHLD	1185	4.13%
SOC	1143	3.99%
MUS	1006	3.51%
HIST	970	3.38%
PSYC	910	3.18%
LERN	741	2.59%
BIOL	728	2.54%
PHIL	677	2.36%
SPCH	677	2.36%
COUN	642	2.24%
PE-F	562	1.96%
SPAN	538	1.88%
POLI	509	1.78%

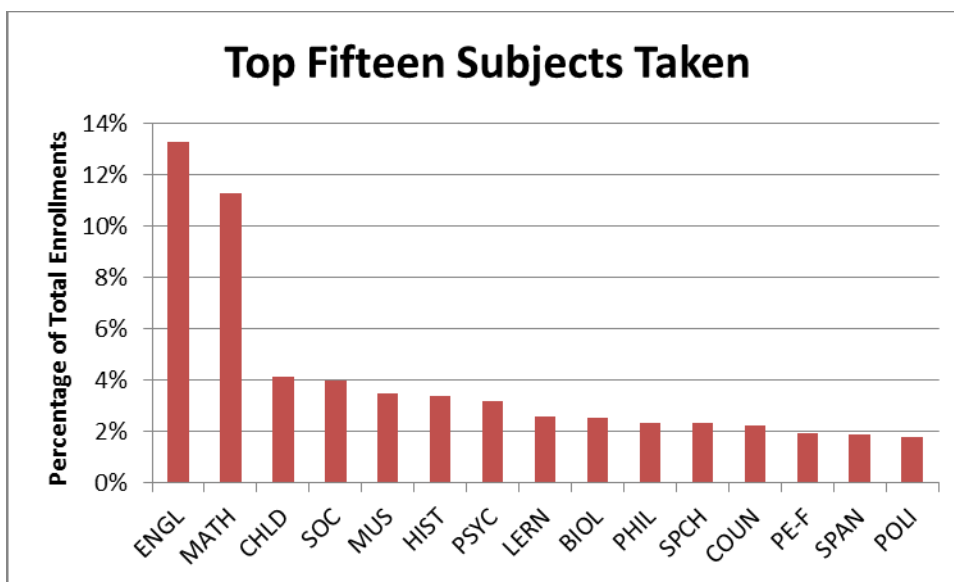


Figure 6

All Additional Enrollments by Tech Prep Students, by Subject Area

Subject	Enrollments	Subject	Enrollments	Subject	Enrollments	Subject	Enrollments
ENGL	3801	PE-X	179	WELD	53	GUID	10
MATH	3241	AHIS	176	AD	53	TRAN	7
CHLD	1185	FASH	157	AGHE	50	NURS	7
SOC	1143	STDY	147	ID	49	ARAB	6
MUS	1006	ANIM	146	ENGR	48	ORNT	6
HIST	970	KINX	145	AGLI	46	ARTZ	6
PSYC	910	LCOM	136	EDT	45	ARTG	5
LERN	741	KIN	133	BUSR	44	ELMA	5
BIOL	728	FCS	132	CSCI	43	LATN	5
PHIL	677	PHOT	132	GRAP	41	QUAL	5
SPCH	677	ITAL	132	MICR	40	DSNT	4
COUN	642	PHYS	130	MEDI	39	ELSR	4
PE-F	562	GEOG	120	MENT	39	AIRM	4
SPAN	538	FRCH	119	CNET	36	HT	4
POLI	509	ARTS	119	EST	35	LEAD	4
SIGN	408	R-TV	118	CISN	34	IDE	3
READ	376	BUSL	113	EDUC	33	PHTH	3
BUSA	340	AGOR	100	METO	32	PE-L	3
NF	329	PE-S	99	CORS	30	DRMA	2
ADJU	299	AIRC	95	HUMA	29	BTNY	2
GEOL	297	PLGL	93	KINA	27	CISM	2
PE-I	295	ELEC	81	TRVL	26	ARTA	2
CISB	284	THTR	81	DN-T	26	DATA	2
CHEM	265	KINI	78	CIS	24	KINL	2
ARTD	260	LIT	75	AIRT	20	SURV	2
DNCE	246	AERO	73	LIBR	20	SUPV	2
KINF	245	HRM	71	SL	20	PAP	1
BUSC	236	CISP	69	TUTR	19	ECWT	1
JAPN	235	ARTC	67	GERM	19	AGFR	1
ASTR	228	AGAN	66	AGAG	18	PE-D	1
AMLA	227	BUSO	64	CISW	17	HECT	1
FIRE	215	KINS	61	MFG	16	RESR	1
BUSM	208	PE-A	60	CISS	15	MAPR	1
ANTH	202	DSPS	59	EMT	15	EMS	1
PE	202	COMP	57	CISI	14	Total	28659
CHIN	194	BUSS	57	AGPE	13		
ARCH	188	PHSC	57	TECH	12		
OCEA	186	JOUR	56	CISD	11		
ANAT	181	ARTB	54	INSP	10		

Academic Outcome in Non-Tech Prep Courses Taken by Tech Prep Students

The next question that arises is how successful were these students in these courses? Grades and retention are two ways of measuring student success. Figure 7 provides the success and retention rates for the courses listed in figure 6. This table shows the number and percent of those successful and unsuccessful, as well as, those who completed or were retained in the 21,470 credit classes taken by the Tech Prep Students.

Figure 7
Success in Credit Coursework Beyond Tech Prep

Successful Grade of A, B, or C		Unsuccessful Grade of D or F		Withdrew Grade of W		Total
Count	Percent	Count	Percent	Count	Percent	
20,633	72%	4,867	17%	3,159	11%	28,659

The Tech Prep students who took additional credit courses were successful in those courses 72% of the time. Only 11% received grades of “W” in those classes.

Courses within the same Tech Prep Subject Area

Of additional interest is whether students pursued coursework within the subject area of their Tech Prep courses.

Figure 8
Outcomes of Additional Non-Tech Prep Designated Courses

Subject	Successful		Unsuccessful		Withdrawn		Total	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
ADJU	129	83%	20	13%	6	4%	155	100%
AGAN	11	100%	0	0%	0	0%	11	100%
AGOR	14	93%	1	7%	0	0%	15	100%
AIRC	16	94%	1	6%	0	0%	17	100%
ANIM	62	98%	0	0%	1	2%	63	100%
ARCH	68	82%	9	11%	6	7%	83	100%
BUSA	122	78%	22	14%	13	8%	157	100%
CHLD	178	88%	11	5%	13	6%	202	100%
CISB	3	100%	0	0%	0	0%	3	100%
CNET	11	100%	0	0%	0	0%	11	100%
COMP	4	67%	0	0%	2	33%	6	100%
CSCI	3	100%	0	0%	0	0%	3	100%
EDT	7	64%	3	27%	1	9%	11	100%
FIRE	40	98%	1	2%	0	0%	41	100%
GRAP	5	42%	5	42%	2	17%	12	100%
HRM	22	92%	2	8%	0	0%	24	100%
ID	14	100%	0	0%	0	0%	14	100%
INSP	1	100%	0	0%	0	0%	1	100%
KIN	4	80%	1	20%	0	0%	5	100%
NF	15	75%	3	15%	2	10%	20	100%
PHOT	18	82%	3	14%	1	5%	22	100%
SIGN	111	90%	8	6%	5	4%	124	100%
WELD	10	100%	0	0%	0	0%	10	100%
Total	868	86%	90	9%	52	5%	1010	100%

Child Development, Administration of Justice, Business, and Sign Language classes were the subjects with the highest numbers of students who continued to take the same type of classes as their Tech Prep courses.

Academic Progress

Another common measure of student success is degree and certificate attainment. A total of 286 degrees, certificates and noncredit certificates have been awarded to 171 students who were once Tech Prep Students. Counted on a per award basis the gender distribution of those receiving these degrees and certificates was slightly skewed with 66% female (n=188) and 34% male (n=97), and one degree earned by a student whose gender is not known. Table 9 shows the count and type of degrees and certificates that were awarded to these students.

Figure 9
Associate Degrees

Award Type	Award Title	Number Awarded
AA	Fine Arts and Humanities	3
AA	Language Arts & Communication	16
AA	Lib Arts AA: Business	4
AA	Lib Arts AA: Communication	2
AA	Lib Arts AA: Humanities	1
AA	Lib Arts AA: Kinesiology Well	8
AA	Lib Arts AA: Language Arts	1
AA	Lib Arts AA: Mathematics	1
AA	Lib Arts AA: Music	1
AA	Lib Arts AA: Natural Sciences	1
AA	Lib Arts AA: Social Behav Sci	13
AA	Liberal Arts	5
AA	Natural Sciences and Math	10
AA	Social and Behavioral Sciences	17
AA	Transfer Studies - CSU	4
AA-T	Psychology	8
AS	Accounting	1
AS	Arch Tech-Design Concentration	1
AS	Aviation Science	2
AS	Child Development	5
AS	Commercial Flight	1
AS	Computer/Networking Technology	1
AS	Engineering Design Technology	2
AS	Fire Technology	3
AS	Interior Design	1
AS	Law Enforcement	6
AS	Legal Sec Sci - Shorthand	1
AS	Paralegal/Legal Assistant	1
AS	Paralegal/Legal-Criminal	1
AS	Registered Vet Technology	1
AS	Sign Language/Interpreting	3
AS	World Travel Management	1
Grand Total		126

Certificates

Award Title	Number Awarded	Award Title	Number Awarded
Accounting	3	Electronic Cabling and Wiring	2
Accounting - Bookkeeping	4	Electronic Systems Tech - I	2
Accounting - Computerized	1	Electronics Communication	1
Accounting - Managerial	3	Electronics Technology	1
Accounting - Payroll	2	Electronics: Industrial System	1
Accounting-Financial Planning	3	Emergency Medical Technician I	9
Air Conditioning And Refrigeration	1	Engineering Design Tech - II	3
Arch Tech - Design II	1	Engineering Design Tech - III	3
Arch Tech - Design III	1	Engineering Design Tech I	3
Architectural Technology I	2	Fire Technology	5
Athletic Trainer Aide I	1	Hosp: Restaurant Mgmt I	1
Building Automation	3	Hospitality Hosp Mgmt I	1
Business: Retail Mgmt I	2	Hospitality: Food Services	2
Business: Sm Business Mgmt	1	Hotel/Restaurant Mgmt	2
Children's Program: Gen II	11	Interior Design Level I	1
Children's Program: Gen III	6	Interior Design Level II	1
Children's Program: General I	38	Intersegmental Gen Ed Transfer	1
Children's Program: Teaching	2	Intro to Comp Info Tech	3
CIS C++ Programming	1	Law Enforcement	2
CSU General Education Breadth	1	Psychiatric Technician	2
Data Entry	1	School Age Child Specialize	1
Educ. Paraprofessional - I	1	Sign Language/Interpreting	1
Elect Assembly & Fabrication	2	Welding	1
Elect/Comp Engineering Tech	1	World Travel Management	1
		Total	142

Noncredit Certificates

Award Title	Number Awarded
Basic Career Readiness	1
Cert Nurs Acute Care Nurs Asst	4
ESL - Beginning Level	11
Secondary Education	2
Total	18

Among the Associate's degrees awarded, Social & Behavioral Science and Language Arts & Communication were earned the most. The General 1 Children's Program certificate was the most earned among the certificates.

In conclusion, as the history of the program increases the number of students successfully completing their course of study at Mt. San Antonio College will also increase. The students who enroll in Tech Prep classes are by nature of the program young and may not take additional college classes for one to two years after completing their Tech Prep work. Therefore, a student who took their first Tech Prep class in 2003 as an 11th grader would enroll as a freshman at Mt. SAC in 2005. If they were required to take remediation classes and they only attended part-time, it may be several years before final goals are achieved. It is recommended that the students who take Tech Prep courses continue to be tracked to determine their final academic outcomes.