

Retrospective Analysis
Of Total Time to Completion:
2007-2008 Associate Degree Recipients



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Midlands Technical College

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Genesis of Project/Methodology

Spearheaded by the Assessment, Research and Planning (ARP) office's Continuous Improvement Initiative, ARP repeated the Retrospective Analysis Study analyzing the academic careers of associate degree graduates from the 2007-08 academic year. Findings from previous studies, conducted in 2000 and 2005, are compared to address the college's graduation rate and general questions concerning the timely progress of students toward graduation. This retrospective analysis provides college administrators with data that illustrates graduates, time to completion of an associate degree and the many variables that affect their progress.

MTC's CERS, CORE and Colleague databases were used to obtain data for the 867 students receiving associate degrees during the 2007-2008 academic year. As with the previous studies, data collection involved determining if students carried an all-DVS, all-curriculum-level, or mixed course load in their first semester after admission. The study also examined the number of academic majors, whether the student brought in transfer hours and from how many institutions, the calendar date of their first semester at MTC, the date on which they received the associate degree, the total number of terms they enrolled at MTC, and whether they finished the term successfully or on academic probation. These variables were collected and merged with basic demographic variables including academic divisions, gender and ethnicity. The impact of support courses, high school GPA, and financial aid award status on student time to graduation also were analyzed in this study.

Additional variables were created to aid in the analysis: those students reporting transfer hours or none were grouped into "transfer" and "native" groups, the amount of time between entry to MTC and graduation was calculated in years and labeled "gradtime." Those students who completed their associate degree in less than 36 months at MTC were further defined by a variable denoting "completion within three-years."

The definition of "time at MTC" for the purposes of this study reflect the calendar time between the first time the student enrolled at MTC and the date they received an associate degree during the 2007-08 academic year. It does not consider stopouts, semesters in which students dropped or failed all classes, or other periods of inactivity before receiving their degrees.

As with the previous studies, this analysis was unable to determine from student transfer data the amount of time it took to earn these credits or whether the credits were earned before or at some point during the student's MTC career.

An important limitation in the data analysis must be noted. While the guiding purpose of the research was to assess any student characteristic that influenced completion of an associate degree, the research also sought to determine compliance with the National Graduation Rate Survey (GRS) requirement, the 150 percent rule. This national Graduation Rate Survey (GRS) criteria mandates that colleges identify first-time, full-time freshman (FFF) cohorts and track their progress to determine how many completed their degrees within 150% of the time following initial enrollment. While this research project was able to count time to completion, it did not attempt to identify which of the 2007-08 degree recipients were among the college's initial cohort of first-time, full-time freshmen. This project does address characteristics of students who completed associate degrees in three years or less and in more than three years, but the cohorts used here are not equivalent to those used to measure and report compliance with the 150 percent GRS rule. These cohorts include students with transfer hours and

students who were not full-time their first semester. This research sought to describe all of the 2007-08 graduates; not just those in the GRS first-time, full-time cohort. Finally, this report compares the finding of the 2007-08 associate degree graduates in key categories to the findings in two previous studies of 1997-98 and 2003-04 graduates.

Profile of Graduates

The population of 867 graduates for the 2007-08 academic year is summarized by gender and race in Table 1 below.

Table 1: 2007-08 Graduates by Gender and Race

Race/Gender	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Nonwhite Female	232	26.76	232	26.76
Nonwhite Male	95	10.96	327	37.72
White Female	334	38.52	661	76.24
White Male	206	23.76	867	100.00

The largest group of students were white females (38.52 percent) followed by nonwhite females (26.76 percent), white males (23.76 percent) and nonwhite males (10.96 percent). The population is summarized by divisions in Table 2 below.

Table 2: 2007-08 Graduates by Division

Division	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Arts & Sciences	347	40.02	347	40.02
Bus/Info Systems	212	24.45	559	64.48
Industrial/Engineering Tech	119	13.73	678	78.20
Nursing/Health Sciences	189	21.80	867	100.00

The largest group of graduates majored in Arts & Sciences (40.02 percent), followed by Business/Information Systems (24.45 percent), Nursing/Health Sciences (21.80 percent) and Industrial/Engineering Technologies (13.73 percent).

The first semester of each student's work at MTC was examined to determine if they started in any Developmental Studies (DVS) courses. Students were grouped into "All DVS," "All-Curriculum-Level," and "Mixed" groups. First-semester course work was found in the database for 840 of the 867 graduates. The majority of graduates (504 graduates, 60.0 percent) were found to have started in the "All-Curriculum-Level," followed by 238 students (28 percent) with a "Mixed" first semester, and 98 students (11.6 percent) with a first semester comprised entirely of DVS coursework.

Sixty-six percent (65.6) of the graduates were classified as "native" students, meaning they did not complete any coursework at other institutions. The remaining (34.4 percent) were classified as "transfer."

A variable was created to denote whether each student met the three-year standard in their progression to graduation. For the purposes of this study, this variable was defined broadly. “Start date” from the MTC data file was the month and year of the beginning of their first semester of work, and the “End date” was the month and year in which they received their degree. The variable does not adjust for stopouts, full- or part-time enrollment status or work completed at other institutions. It is merely a raw representation of the amount of time students worked on their degrees at MTC before completion. Another variable was created to represent the total number of semesters students enrolled during their MTC career. The ratio of these two variables gives a rough estimate of the persistence of coursework attempted during that time, i.e., time to completion divided by the number of semesters result in a ratio where a smaller value equates to a student being more persistent in completing their program, when compared to a larger value.

Of the 840 graduates found in the database with course work in their first semester at MTC, 619 (74 percent) did not meet the three-year standard; taking longer than three calendar years to complete their degrees. The remaining 221 graduates (26 percent) met the three-year standard.

Table 3 summarizes the cross tabulation of the native/transfer variable with the variable measuring whether each graduate met the three-year standard.

Table 3: Native/Transfer Status and Compliance with Three-Year Standard

Native/Transfer	Frequency	Percent	Cumulative Frequency	Cumulative Percent
MTC only, 3 years or less	91	10.83	91	10.83
MTC only, more than 3 years	460	54.76	551	65.60
Transfer, 3 years or less	130	15.48	681	81.07
Transfer, more than 3 years	159	18.93	840	100.00

The largest group of graduates (54.76 percent), MTC “native” students, did not meet the three-year standard. Nearly 20 percent (18.93) of graduates, those who brought in transfer hours from other institutions also did not meet the three-year standard. Fifteen percent (15.48) of graduates, those who transferred hours in, graduated within the three-year standard. The smallest group (10.83 percent), “native” MTC students met the three-year standard.

A summary of graduates depicting whether or not they met the three-year standard and their curricular standings at the time of admission can be seen in Table 4. Of the 504 students (60 percent) who started in all-curriculum-level coursework, 179 (35.52 percent) completed their degrees in three years or less and 325 (64.5 percent) took longer. This group had the best rate of compliance with the three-year standard. Compliance with the standard tended to decrease as the amount of DVS coursework in the first semester increased. Among those students who started with a mixed DVS/curriculum-level schedule, only 15.13 percent met the three-year standard; this percentage declined to 6.12 percent among students who started with an all-DVS schedule.

Table 4: Population Analysis, Compliance with Three-Year Standard
by DVS Status at Admission

Compliance	First-Term Status			
Frequency Percent Row Percent Column Percent	Curriculum	DVS	Mixed	
3 years or less	179	6	36	221
	21.31	0.71	4.29	26.31
	81.00	2.71	16.29	
	35.52	6.12	15.13	
More than 3 years	325	92	202	619
	38.69	10.95	24.05	73.69
	52.50	14.86	32.63	
	64.48	93.88	84.87	
Total	504	98	238	840
	60.00	11.67	28.33	100.00

Chi-Square = 57.98, p-value <0.0001, df=2

Analysis of the statistics shown in Table 4 indicates that compliance with the three-year standard is significantly related to first-term status at admission.

Time to graduation was then tabulated based on their native/transfer and completion status and first-term status for each race/gender category. These findings are summarized in Table 5.

Table 5 gives percentages of each race/gender classification: white males, nonwhite males, white females and nonwhite females in each combination of first-term status and the combined native/transfer/compliance with the three-year standard variable. Frequencies are listed and percentages are calculated in the total row at the bottom of the table. The denominator is the total number of white males, nonwhite females, etc. for the cohort. Therefore, comparing the four percentages across rows gives an indication of high or low representation of race/gender in each first-term status and compliance group.

Table 5 also shows the race/gender counts and percentages by first-term status for graduates that were either native to MTC or transfers that took less than or more than three years to graduate. As with the previous study, DVS students that were native to MTC and took three years or more to graduate show a similar distribution across race/gender categories. Of the nonwhite females, 11.55 percent fell into this classification, compared to 11.76 percent of white females, 4.72 percent of nonwhite males and 7.55 percent of white males.

Also, graduates who were all-curriculum-level in their first-terms, were transfers and completed their degrees within three years have similar race/gender percentages when compared to the previous study. Nonwhite males in this group represent 12.59 percent, compared to 23.25 percent white males, 16.06 percent white females and 7.92 percent nonwhite females. Likewise, graduates that were in the mixed category, were native to MTC, and took more than three years to finish, show an even distribution percentage that is similar to the previous study. Nonwhite males comprise 23.62 percent,

compared to 17.22 percent white females, 26.40 percent nonwhite females, and 16.27 percent of white males.

Table 5: First-Term Status and Compliance with the Three-Year Standard
in Race/Gender Category

First-Term Status	Native/Transfer	Race/Gender			
	Frequency Percent	White Males	Nonwhite Males	White Females	Nonwhite Females
All Curricular	Native, 3 years or less	21 12.20	4 3.14	19 7.98	12 3.96
	Native, 3 years +	39 22.67	39 30.70	51 21.42	70 23.10
	Transfer, 3years or less	40 23.25	16 12.59	43 16.06	24 7.92
	Transfer, 3 years +	15 8.72	21 16.53	36 15.12	54 17.82
All DVS	Native, 3 years or less	2 1.16	0 0.00	2 0.84	1 0.33
	Native, 3 yrs +	13 7.55	6 4.72	28 11.76	35 11.55
	Transfer, 3years or less	0 0.00	0 0.00	0 0.00	1 0.33
	Transfer, 3 years +	1 0.58	3 2.36	0 0.00	6 1.98
Mixed	Native, 3 years or less	8 4.65	5 3.93	11 4.62	6 1.98
	Native, 3 years +	28 16.27	30 23.62	41 17.22	80 26.40
	Transfer, 3years or less	1 0.58	1 0.78	2 0.84	2 0.66
	Transfer, 3 years +	4 2.32	2 1.57	5 2.10	12 3.96
Total		172	127	238	303
		100	100	100	100

Average Years and Semesters at MTC

Table 6 (page 8) summarizes several count variables used in this analysis. The column labeled “N” lists the number of students in each classification of initial DVS/curriculum-level schedule and compliance with the three-year standard for each variable; the mean column lists the average for the following four variables: time at MTC (“Gradtime” in years), number of semesters completed at MTC (“Semesters” in semesters), number of other institutions (“Otherschools” in number of other schools) and total hours transferred in (“Transferhrs” in credit hours). The last column lists the standard deviation, which is only important as an indicator of the variability of each group.

The first two variables shown in Table 6, “Gradtime” and “Semesters” summarizes data for the 840 graduates for which first-term course information was found in the database, regardless of transfer status. The last two variables, “Otherschools” and “Transferhrs” summarize data only for those students in each category who brought in hours from at least one other institution.

Table 6 shows that graduates who started their first semester at MTC with an all-curricular-level schedule and met the three-year standard had an average graduating time of 2.05 calendar years compared to 6.48 years for students not meeting the three-year standard.

As we continue to review the data contained in Table 6, we see that the findings are similar for the number of semesters completed among graduates meeting and not meeting the standard across all DVS/curriculum-level schedules. It is important to remember that both variables are listed because “Gradtime” reflects the raw calendar time elapsed between a student’s entry and graduation, and “Semesters” reflects the actual number of semesters enrolled in that time.

Among those who met the standard, the smallest number of semesters is seen among those students who started with an all-curricular-level schedule (5.7 semesters). This is followed by the DVS schedule (6.00 semesters) and the mixed schedule (7.53). Unlike the trend for the compliers the non-compliers, behave accordingly; the smallest number of semesters is seen among the all-curriculum group (11.29 semesters), followed by the mixed schedule group (12.16 semesters) and finally the DVS group (12.72 semesters).

Transfer Institutions and Hours

The last two variables in Table 6 show data for a selected section of the larger 2007-08 graduate population, namely students who brought in hours from institutions outside MTC. The column to the right of the variable column lists the number of such students in each sub-classification. Among students with at least one transfer institution, the majority (259 students) were enrolled in the all-curriculum-level schedule. Of these students, 103 met the three-year standard and 156 did not graduate within the three-year period. This compares to a total of 85 students in the all-DVS and mixed sub categories with two meeting the standard and 29 not meeting it for the all-DVS group and 10 meeting the standard and 44 not meeting it for a mixed student schedule.

Among graduates reporting transfer hours for the all-curriculum-level schedule, those meeting the three-year standard attended an average of 1.18 outside institutions, while those not meeting the standard attended an average of 1.28 institutions. This compares favorably to 1.00 institutions for those meeting the standard and 1.21 institutions for those not meeting it in the all-DVS case, and 1.00 institutions for those meeting the standard and 1.14 institutions for those not meeting it for a mixed student schedule.

Table 6: Years and Semesters at MTC, Transfer Variables by DVS Status,
Three-Year Standard Compliance

First-Term Status	Three-Year Standard	Variable	N	Mean	STD
All Curriculum	Met	Gradtime	179	2.05	0.58
		Semesters	179	5.70	2.00
		Otherschools	103	1.18	0.41
		Transferhrs	122	46.92	32.13
	Not Met	Gradtime	325	6.48	3.36
		Semesters	325	11.29	4.19
		Otherschools	156	1.28	0.65
		Transferhrs	126	33.64	35.38
All DVS	Met	Gradtime	6	2.43	0.38
		Semesters	6	6.00	1.41
		Otherschools	2	1.00	0.00
		Transferhrs	2	4.00	1.41
	Not Met	Gradtime	92	7.04	3.38
		Semesters	92	12.72	4.86
		Otherschools	29	1.21	0.49
		Transferhrs	6	31.08	48.44
Mixed	Met	Gradtime	36	2.40	0.46
		Semesters	36	7.53	1.76
		Otherschools	10	1.00	0.00
		Transferhrs	6	21.34	18.80
	Not Met	Gradtime	202	6.93	3.52
		Semesters	202	12.16	3.95
		Otherschools	44	1.14	0.35
		Transferhrs	20	20.67	31.96

Further comparison of graduating time for the all-DVS and mixed first-term schedules against meeting and not meeting the standard were 2.43 years compared to 7.04 years, and 2.40 years compared to 6.93 years, respectively. The fastest graduating group for students meeting the standard was the all-curricular-level (2.05 years), followed by the mixed level (2.40 years) and the DVS level (2.43 years). For students not meeting the standard, the fastest graduating group was the all-curricular-level (6.48 years), followed by the mixed level (6.93 years) and the DVS level (7.04 years). These results are shown in Table 7 and are similar to the previous two studies conducted of associate degree graduates in 1997-1998 and 2002-2003 academic years. In general, the time to graduation for students in all three first-term categories is either declining or approximately the same; while time to graduation for students who did not meet the standard is increasing.

Table 7: Average Graduating Time Comparison 1997-98 to 2007-08

First-Term Status	Three-Year Standard	1997-1998 Study	2002-2003 Study	2007-2008 Study
All Curriculum	Met	2.13 yrs	2.14 yrs	2.05 yrs
	Not met	5.35 yrs	5.85 yrs	6.48 yrs
All DVS	Met	2.71 yrs	2.77 yrs	2.43 yrs
	Not met	5.69 yrs	6.79 yrs	7.04 yrs
Mixed	Met	2.39 yrs	2.42 yrs	2.40 yrs
	Not met	5.01 yrs	5.81 yrs	6.93 yrs

Graduates in the all-curriculum-level category as a whole tended to bring in more transfer hours. Those graduates (122) meeting the three-year standard brought in an average of 46.92 hours, while those graduates (126) not meeting the standard brought in an average of 33.64 hours. This compares to the mixed group of graduates (6) bringing in an average of 21.34 hours for students that met the standard, while (20) graduates who brought in an average of 20.67 hours did not meet the standard. The 2007-2008 graduates brought in more transfer hours than the groups analyzed in previous studies. See Table 8 below. For the purpose of this comparison, the all-DVS group was too small to consider.

Table 8: Average Transfer Hours Comparison 1997-1998 to 2007-2008 Graduates

First-Term Status	Three-Year Standard	N	1997-1998 Study	N	2002-2003 Study	N	2007-2008 Study
All Curriculum	Met	*	30.16 hrs	130	17.4 hrs	122	46.92 hrs
	Not met	*	24.2 hrs	139	12.9 hrs	126	33.64 hrs
Mixed	Met	*	12.0 hrs	13	11.7 hrs	6	21.34 hrs
	Not met	*	18.1 hrs	43	8.36 hrs	20	20.67 hrs

* Not reported

Year and Semester Analysis by Native/Transfer/Completion Group

Variables “Gradtime” and “Semesters” in Table 9 summarize averages and standard deviations for years and semesters at MTC for the combinations of the native/transfer/completion within three years variable and first-term status.

Unlike the previous study, when examining graduates who were “native” to MTC and took more than three years to complete their degrees, the mixed category instead of the all-DVS group show average years that are slightly longer. The mixed group took 7.17 years and 12.28 semesters, compared to 6.96 years and 12.66 semesters for the all-DVS group, and 6.63 years and 11.44 semesters for students with all-curriculum first-term schedules.

Among graduates “native” to MTC who completed their degrees in three years or less, the all-curriculum group took the least amount of time, 2.32 years and 6.64 semesters. This compares to 2.44 years and 7.27 semesters for the mixed group, and 2.53 years and 6.20 semesters for students with an all-DVS schedule. The small sample count (five students) for the all-DVS group should be considered when comparisons are being made.

Table 9: Years and Semesters by
Native/Transfer/Completion and DVS Status at Admission

Native/Transfer	First-Term Status	N	Variable	Mean	STD
Native, 3 years or less	All Curriculum	56	Gradtime Semesters	2.32 6.64	0.43 1.68
	All DVS	5	Gradtime Semesters	2.53 6.20	0.31 1.48
	Mixed	30	Gradtime Semesters	2.44 7.27	0.41 1.17
Native, 3 years +	All Curriculum	199	Gradtime Semesters	6.63 11.44	3.55 4.02
	All DVS	82	Gradtime Semesters	6.96 12.66	3.46 4.96
	Mixed	179	Gradtime Semesters	7.17 12.28	3.57 3.89
Transfer, 3 years or less	All Curriculum	123	Gradtime Semesters	1.92 5.28	0.60 2.00
	All DVS	1	Gradtime Semesters	1.91 5.00	. .
	Mixed	6	Gradtime Semesters	2.21 8.83	0.67 3.37
Transfer, 3 years +	All Curriculum	126	Gradtime Semesters	6.25 11.06	3.05 4.47
	All DVS	10	Gradtime Semesters	7.69 13.20	2.69 4.13
	Mixed	23	Gradtime Semesters	5.08 11.22	2.47 4.36

As with the previous study, transfers who completed degrees in three or fewer years (Table 9) is unbalanced in cell frequencies, with one graduate in the all-DVS category (1.91 years), six in the mixed schedule group (2.21 years), and 123 graduates with an average of 1.92 years for the all-curriculum-level group. Although these categories compare well, small sample sizes for the all-DVS and mixed groups should be considered when making comparisons.

Table 9 shows the semesters to completion by Native/Transfer grouping and first-term classification. Like the previous study, the MTC native population who took more than three years to graduate shows the all-DVS subgroup took the most terms (12.66) to graduate, compared to 12.28 for the mixed group and 11.44 for students with an all-curriculum schedule.

For transfer students taking more than three years to graduate (Table 9), the all-curriculum-level graduates took an average of 11.06 semesters to completion, compared to 11.22 for the mixed schedule group and 13.20 for the all-DVS students. Among transfers graduating in three or fewer years, the all-curriculum-level group needed an average of 5.28 semesters, compared to 8.83 semesters for the six mixed schedule students, and 5.00 semesters for the one all-DVS student.

Similar to the previous two studies, there is practically no difference between the variations seen in the degree completion time variables for “native” versus “transfer” students for the all-curriculum and all-DVS categories. However, there are differences in the mixed group. For example, graduates native to MTC who took more than three years to complete their degrees had completion times of 6.63, 6.96 and 7.17 years for the all-curriculum, all-DVS and mixed categories, respectively; compared to 6.25, 7.69 and 5.08 years for transfer students requiring more than three years to graduate. Comparison between the previous two studies is shown in Table 10 below. In general, the average time to graduation is increasing for both the “native” and “transfer” groups who take more than three years to complete their degrees.

Table 10: Native/Transfer Comparison for MTC Studies

Native/Transfer	First Term Status	1997-1998 Study	2002-2003 Study	2007-2008 Study
Native, 3 years +	Curriculum	5.3 years	6.0 years	6.6 years
	DVS	5.8 years	6.8 years	7.0 years
	Mixed	5.1 years	5.9 years	7.2 years
Transfer, 3 years +	Curriculum	5.4 years	5.7 years	6.2 years
	DVS	7.2 years	6.7 years	7.7 years
	Mixed	4.7 years	5.3 years	5.1 years

Race/Gender Analysis of Years and Semesters to Completion

Table 11 summarizes averages and standard deviations in years and semesters at MTC, number of transfer institutions and hours transferred in for combinations of the native/transfer/years to completion variable and the race/gender categories.

Unlike the previous study in which nonwhite males took the fewest average years to graduate when looking at the MTC native population taking more than three years to graduate group, white males took the fewest years in this study. White males took 4.38 years to complete their degrees, followed by white females at 4.79 years, nonwhite males at 7.24 years and nonwhite females at 8.73 years. When we look at semesters, white males required the fewest average semesters. White males took 9.55 semesters to finish their degrees, followed by white females with 11.29 semesters, nonwhite males with 11.42 semesters, and nonwhite females at 14.00 semesters.

As with the previous study, cell frequencies are slightly more imbalanced in the native/three years or fewer subgroup: there are just nine nonwhite males in this classification. Average years to graduate are more homogeneous: white females had the lowest number of years at MTC with 2.35 years, followed by white males with 2.40 years, nonwhite males with 2.47 years, and nonwhite females with 2.48 years. White females have the lowest average number of semesters to completion with 6.43 semesters, followed by white males with 6.86 semesters, nonwhite males with 7.22 semesters, and nonwhite females with 7.46 semesters.

Among the transfer/more than three years to completion group, white females used the least amount of time to complete their degrees. White females enrolled an average of 4.32 years at MTC, compared to 4.66 years for white males, 7.16 years for nonwhite males and 7.29 years for nonwhite females. White females took an average of 9.27 semesters during that time, compared to 9.35 for white males, 12.17 semesters for nonwhite females and 13.08 semesters for nonwhite males.

Finally, white females used the least amount of time to complete their degrees in the transfer/three years or fewer category. White females took an average of 1.81 years, compared to 1.95 years for white males, 2.01 years for nonwhite females, and 2.12 years for nonwhite males. White males took 5.10 semesters to complete their degrees, compared to 5.31 semesters for white females, 5.53 semesters for nonwhite males, and 6.11 semesters for nonwhite females.

Like the previous study, Table 11 shows that nonwhite males are underrepresented among students persisting to completion of an associate degree for the four native/transfer groups analyzed. When looking at students in the native/transfer categories who took longer than three years to graduate, nonwhite females and nonwhite males took significantly longer than white females and white males. Nonwhite females and nonwhite males who were native to MTC took an average of 8.73 years and 7.24 years respectively, compared to 4.79 years and 4.38 years for white females and white males. Nonwhite females and nonwhite males who were transfers in this group took an average of 7.29 years and 7.16 years respectively, compared to 4.32 years and 4.66 years for white females and white males. There were no significant differences found among race/gender subgroups for native/transfer students who completed their degrees in three years or less.

Table 11: Means and Semesters at MTC, Transfer Variables by
Native/Transfer/Completion and Race/Gender

Native/Transfer	Race/Gender	N	Variable	N	Mean	Std Dev
Native, 3 years or less	Nonwhite Females	13	Gradtime	13	2.48	0.41
			Semesters	13	7.46	1.85
			Otherschools	0	.	.
			Transferhrs	0	.	.
	Nonwhite Males	9	Gradtime	9	2.47	0.32
			Semesters	9	7.22	1.20
			Otherschools	0	.	.
			Transferhrs	0	.	.
	White Females	23	Gradtime	23	2.35	0.41
			Semesters	23	6.43	1.62
			Otherschools	0	.	.
			Transferhrs	0	.	.
	White Males	29	Gradtime	29	2.40	0.45
			Semesters	29	6.86	1.38
			Otherschools	0	.	.
			Transferhrs	0	.	.
Native, 3 years +	Nonwhite Females	131	Gradtime	131	8.73	3.62
			Semesters	131	14.00	4.05
			Otherschools	0	.	.
			Transferhrs	0	.	.
	Nonwhite Males	48	Gradtime	48	7.24	4.09
			Semesters	48	11.42	3.25
			Otherschools	0	.	.
			Transferhrs	0	.	.
	White Females	100	Gradtime	100	4.79	1.03
			Semesters	100	11.29	2.97
			Otherschools	0	.	.
			Transferhrs	0	.	.
	White Males	62	Gradtime	62	4.38	0.93
			Semesters	62	9.55	3.05
			Otherschools	0	.	.
			Transferhrs	0	.	.
Transfer, 3 years or less	Nonwhite Females	27	Gradtime	27	2.01	0.57
			Semesters	27	6.11	2.68
			Otherschools	20	1.20	0.41
			Transferhrs	25	48.27	39.63
	Nonwhite Males	17	Gradtime	17	2.12	0.63
			Semesters	17	5.53	2.00
			Otherschools	12	1.25	0.45
			Transferhrs	16	32.31	15.94

Native/Transfer	Race/Gender	N	Variable	N	Mean	Std Dev
	White Females	45	Gradtime	45	1.81	0.57
			Semesters	45	5.31	2.22
			Otherschools	37	1.14	0.35
			Transferhrs	44	53.37	37.09
	White Males	41	Gradtime	41	1.95	0.63
			Semesters	41	5.10	1.80
			Otherschools	33	1.21	0.48
			Transferhrs	38	38.19	21.33
Transfer, 3 years +	Nonwhite Females	72	Gradtime	72	7.29	3.47
			Semesters	72	12.17	4.47
			Otherschools	58	1.34	0.74
			Transferhrs	58	27.83	33.79
	Nonwhite Males	26	Gradtime	26	7.16	2.83
			Semesters	26	13.08	5.95
			Otherschools	22	1.55	1.01
			Transferhrs	19	24.47	31.60
	White Females	41	Gradtime	41	4.32	1.00
			Semesters	41	9.27	2.62
			Otherschools	25	1.16	0.37
			Transferhrs	33	49.12	41.51
	White Males	20	Gradtime	20	4.66	0.92
			Semesters	20	9.35	2.81
			Otherschools	11	1.00	0.00
			Transferhrs	16	15.38	11.76

Race/Gender Analysis of Transfer Variables

Table 12 shows that transfer-institution data compare well across the three different studies, but transfer hours do not. Overall, the average number of transfer institutions for race/gender combinations across the three study cohorts is 1.6 institutions for both the 1997-1998 and 2003-2004 studies and 1.2 institutions for the 2007-2008 study group. By contrast, the average transfer hours for the 1997-1998 study is 26.6 hours, compared to 14.9 hours for the 2003-2004 study and 36.0 hours for the 2007-2008 study.

Table 12: Race/Gender/Transfer Comparison of MTC Studies

Native/ Transfer	Race/Gender	N	1997-1998 Study		N	2003-2004 Study		N	2007-2008 Study	
			(Hrs)	(Inst)		(Hrs)	(Inst)		(Hrs)	(Inst)
Transfer, 3 years +										
	White Males	23	16.9	1.3	42	13.5	1.6	16	15.4	1.0
	Nonwhite Males	7	34.7	1.9	22	12.8	1.7	19	24.5	1.5
	White Females	33	24.0	1.3	70	12.3	1.5	33	49.0	1.2
Transfer, 3 years or less	Nonwhite Females	13	23.5	1.9	54	8.8	1.3	58	28.0	1.3
	White Males	22	29.8	1.3	30	18.5	1.4	38	38.0	1.2
	Nonwhite Males	5	27.8	1.8	15	21.7	2.0	16	32.0	1.2
	White Females	31	27.6	1.7	66	15.5	1.6	44	53.0	1.1
	Nonwhite Females	13	28.8	1.4	33	16.0	1.6	25	48.0	1.2
	Average		26.6	1.6		14.9	1.6		36.0	1.2

Analysis of Graduation Time, High School GPA and Number of Programs

Table 13 investigates the relationship between variables “Gradtime,” “Hsgpa” (High school GPA), “Progent” (Number of programs a student enrolled in) and first-term status. Students whose first term at MTC consisted of an all-curriculum-level schedule graduated in less time and have higher high school GPAs than both the all-DVS and mixed groups. The all-curriculum-level student’s average graduation time and high school GPA were 4.91 years with a 3.20 GPA respectively. This compares to 6.24 years with a 3.00 GPA for students with a mixed schedule, and 6.75 years with a 3.03 GPA for the all-DVS group.

The average number of programs a student enrolled in was slightly higher for the all-DVS group (4.02), compared to 3.86 for the mixed students and 3.62 for the all-curriculum group. Please note due to the unavailability of high school GPA, counts were smaller for this variable with the all-DVS group having only seven students.

Table 13: Mean Graduation Time, High School GPA and Number of Programs by First-Term Status

First Term Status	N	Variable	N	Mean	STD
All Curriculum	504	Gradtime	504	4.91	3.45
		Progcnt	504	3.62	2.00
		Hsgpa	129	3.20	0.56
All DVS	98	Gradtime	98	6.75	3.46
		Progcnt	97	4.02	2.27
		Hsgpa	7	3.03	0.54
Mixed	238	Gradtime	238	6.24	3.63
		Progcnt	238	3.86	2.06
		Hsgpa	89	3.00	0.59

Influence of Support Courses and Academic Probation on Time to Graduation

Mean Graduation Time for the Support Courses, Academic Probation at End of First Term and After First-Term Variables

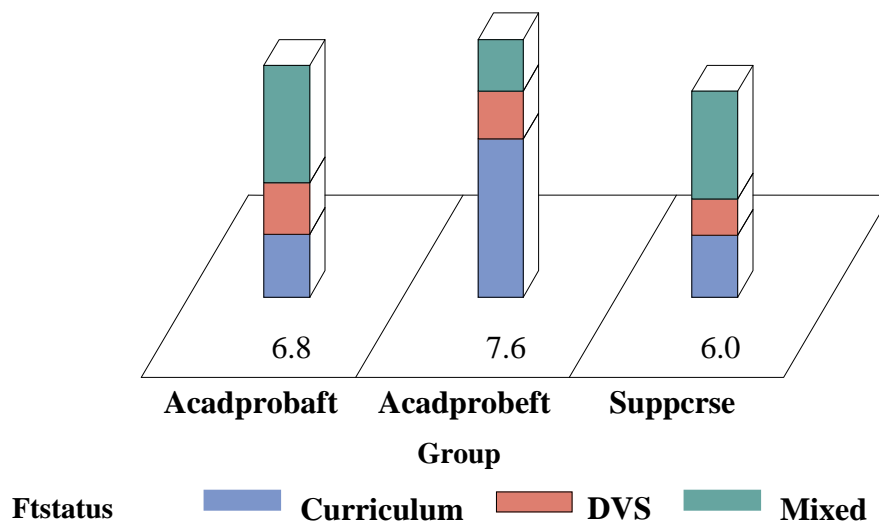


Chart 1

The relationship between graduation time, support courses and academic probation is seen in Chart 1. Variables “Acadprobaft” (students on academic probation after their first term), “Acadprobeft” (students on academic probation at the end of their first term), and “Suppcerse” (students having taken support courses) are shown along with their average graduation times. Support courses for this study included COL 103 (College Skills), COL 105 (Freshman Seminar) and IDS (Personal/Career Assessment). Students with support courses graduated about a year earlier than students who were on

academic probation at some point during their MTC careers. The average time to graduation for student defined by variable “Acadprobaft” was 6.8 years, compared to 7.6 years for variable “Acadprobeft,” and 6.0 years for variable “Supperse.”

Taking a look at a demographic profile of this typical student in Tables 14, 15 and 16 through frequencies and percentages for support courses and academic probation variables by division, race/gender and first-term status show this student is overrepresented by Arts & Sciences division graduates. The typical student with support courses is primarily from the Arts & Sciences (44.09 percent) and the Nursing and Health Sciences (24.02 percent) divisions, compared to the Bus/Info Systems (41.43 percent) and Arts & Sciences (34.97 percent) divisions for the 2002-2003 study. Like the previous study, these students are mostly white and nonwhite females with a first-term at MTC that is largely a mixed schedule of curricular and developmental courses. In Table 15, we see that 38.19 percent of students with support courses were white females and 32.68 percent were nonwhite females. This compares to 17.72 and 11.42 percent white males and nonwhite males, respectively. Table 16 shows 52.36 percent of students with support courses carried a mixed schedule during their first semesters at MTC, compared to 35.04 percent in the all-curriculum group, and 12.60 percent who were enrolled in all-DVS courses.

Inferential statistics from Tables 14, 15 and 16 show the support course and academic probation variables to be significant by race/gender combinations and first-term status, but not significant by academic divisions.

Demographic Profile for Students Enrolled in Support Courses and on Academic Probation

Table 14:

Table of Group by Division					
Group	Division				Total
Frequency Percent Row Pct. Col. Pct.	Arts & Sciences	Bus/Info Systems	Industrial/Engineering Tech	Nursing/Health Science	
Acadprobaft	15	9	4	4	32
	4.73	2.84	1.26	1.26	10.09
	46.88	28.13	12.50	12.50	
	10.56	16.98	7.55	5.80	
Acadprobeft	15	3	9	4	31
	4.73	0.95	2.84	1.26	9.78
	48.39	9.68	29.03	12.90	
	10.56	5.66	16.98	5.80	
Supperse	112	41	40	61	254
	35.33	12.93	12.62	19.24	80.13
	44.09	16.14	15.75	24.02	
	78.87	77.36	75.47	88.41	
Total	142	53	53	69	317
	44.79	16.72	16.72	21.77	100.00

Chi-Square = 9.87, P-value = 0.13, df = 6

Table 15:

Table of Group by Race/Gender					
Group	Race/Gender				Total
Frequency Percent Row Pct. Col. Pct.	Nonwhite Female	Nonwhite Male	White Female	White Male	
Acadprobaft	5 1.58 15.63 5.10	8 2.52 25.00 17.02	8 2.52 25.00 7.21	11 3.47 34.38 18.03	32 10.09
Acadprobeft	10 3.15 32.26 10.20	10 3.15 32.26 21.28	6 1.89 19.35 5.41	5 1.58 16.13 8.20	31 9.78
Supperse	83 26.18 32.68 84.69	29 9.15 11.42 61.70	97 30.60 38.19 87.39	45 14.20 17.72 73.77	254 80.13
Total	98 30.91	47 14.83	111 35.02	61 19.24	317 100.00

Chi-Square = 21.36, P-value = 0.001, df = 6

Table 16:

Table of Group by First-Term Status				
Group	First-Term Status			Total
Frequency Percent Row Pct. Col. Pct.	Curriculum	DVS	Mixed	
Acadprobaft	11 3.47 34.38 9.09	6 1.89 18.75 13.95	15 4.73 46.88 9.80	32 10.09
Acadprobeft	21 6.62 67.74 17.36	5 1.58 16.13 11.63	5 1.58 16.13 3.27	31 9.78
Supperse	89 28.08 35.04 73.55	32 10.09 12.60 74.42	133 41.96 52.36 86.93	254 80.13
Total	121 38.17	43 13.56	153 48.26	317 100.00

Chi-Square = 16.36, P-value = 0.002, df = 4

Graduation Time and Financial Awards

As with the study of 2002-2003 graduates, Chart 2 does not show any pattern between graduation time and the financial award amounts students received. Graduation time is fairly evenly distributed among all amount categories.

Average Graduation Time Vs. Award Amount for Students

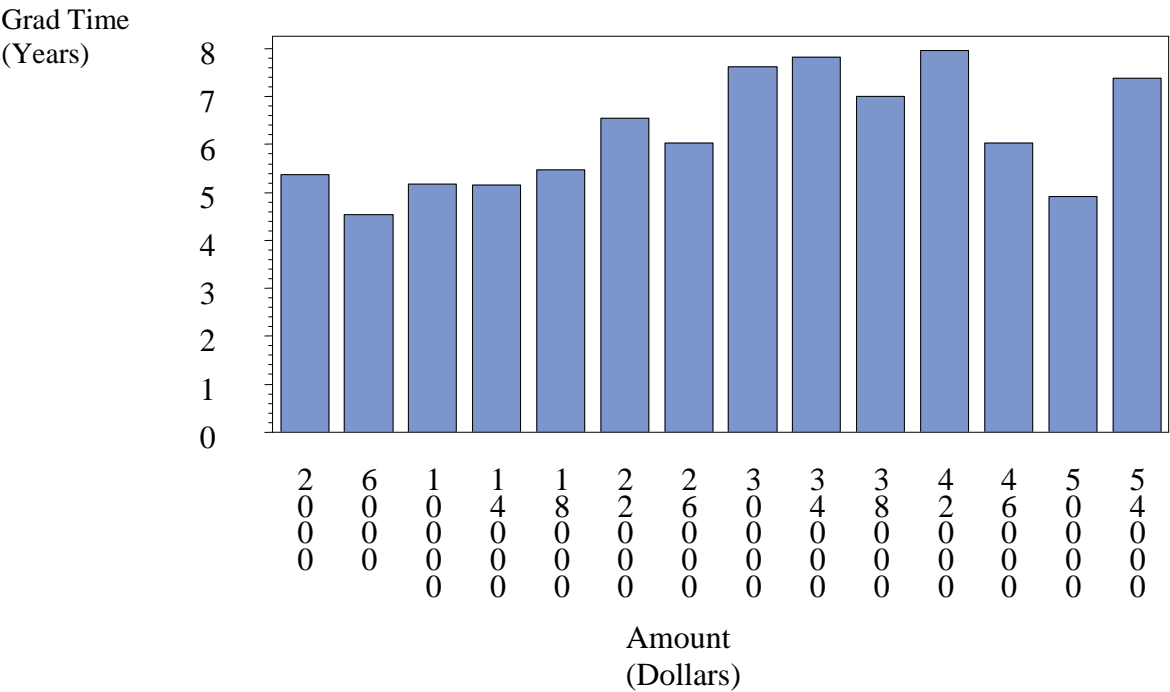


Chart 2

In Chart 3, we see a much larger number of students receiving financial awards in the smaller categories. This is also similar to the findings of the 2002-2003 graduate cohort. Nearly 180 graduates received total amounts in the \$2000 category, compared to just one in the \$54,000 category. These amounts represent a combination of student loans, work study as well as various grants.

Students receiving financial aid compared to those who did not show a one-year difference in graduating time. The average graduation time for the 750 students receiving aid is 5.6 calendar years, compared to 4.64 years for the 89 students not receiving aid.

Number of Students Vs. Award Amounts

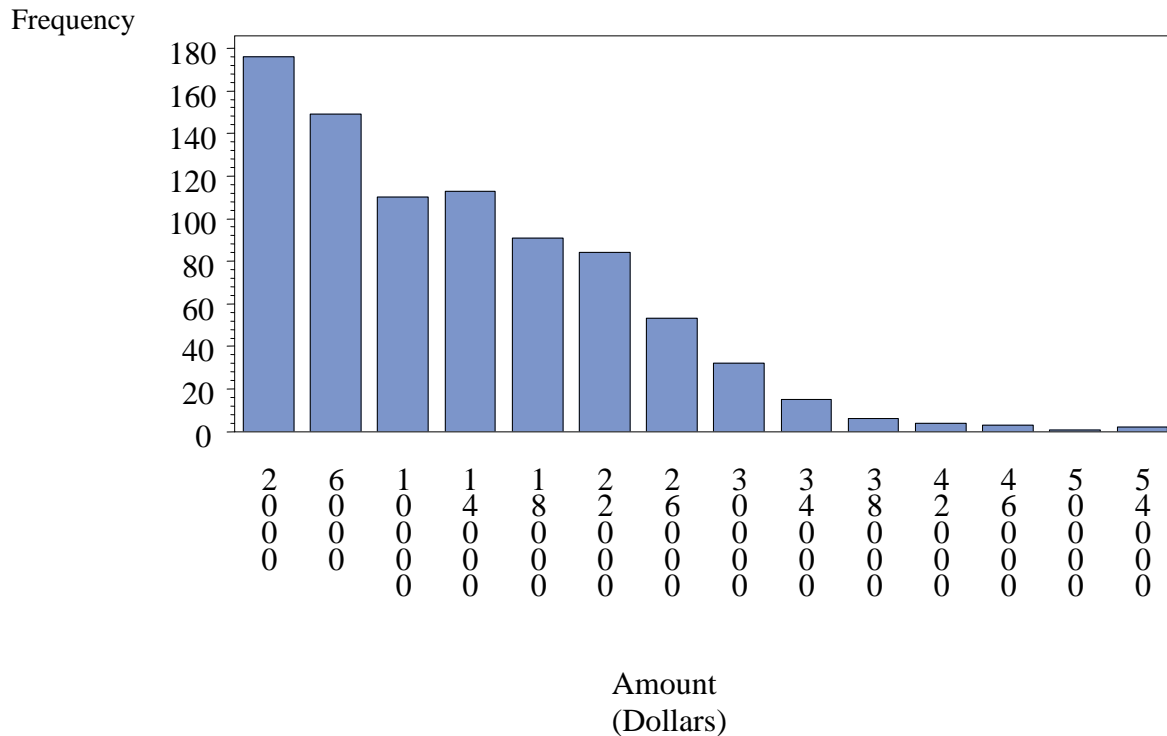


Chart 3

There are additional tables along with a chart of descriptive statistics in the appendix that further analyze the 2007-2008 associate degree cohort. Tables A through D show compliance with the three-year standard by first-term status for the four academic divisions at MTC. Table A shows for Arts and Sciences graduates who started their first semester at MTC with an all-Curriculum schedule, 36.54 percent of them met the standard; this compares to 16.84 percent of mixed schedule graduates and 11.43 percent of DVS graduates, respectively, meeting the standard. Similarly, Table B shows for Business/Information Systems graduates that started their first semester at MTC with an all-curriculum schedule, 38.94 percent of them met the standard; this compares to 15.38 percent of mixed schedule graduates and 7.14 percent of DVS graduates, respectively, meeting the standard. Chart 4 shows a three-dimensional depiction of mean graduation time in years for the academic probation and support course variables by first-term status. As seen in Chart 4 and throughout the report, the time to graduation is shorter for students who start their first semesters at MTC with an all-curricular schedule.

Conclusions:

Although the 2007-2008 study shows students are taking a little longer to graduate, it basically serves as confirmation for the two previous studies and again points to the many diverse paths students take to completion of an associate degree. It should be pointed out that these studies are limited in that they do not explain variables having significant impact on graduation time, i.e., students' use of stopouts and full-time versus part-time enrollment status. Additional research, in which these cohort groups are identified and studied, is required to adequately explain this phenomenon.

Appendix

Appendix: Additional Tables

Table A: Compliance with Three-Year Standard by DVS Status at Admission, Arts & Sciences

Compliance	First-Term Status			
Frequency Percent Row Percent Column Percent				
	Curriculum	DVS	Mixed	Total
<= 3 Years (Met Std)	76	4	16	96
	22.49	1.18	4.73	28.40
	79.17	4.17	16.67	
	36.54	11.43	16.84	
> 3 Years (Did not meet)	132	31	79	242
	39.05	9.17	23.37	71.60
	54.55	12.81	32.64	
	63.46	88.57	83.16	
Total	208	35	95	338
	61.54	10.36	28.11	100.00

Table B: Compliance with Three-Year Standard by DVS Status at Admission, Business/Information Systems

Compliance	First-Term Status			
Frequency Percent Row Percent Column Percent				
	Curriculum	DVS	Mixed	Total
<= 3 Years (Met Std)	44	2	10	56
	21.36	0.97	4.85	27.18
	78.57	3.57	17.86	
	38.94	7.14	15.38	
> 3 Years (Did not meet)	69	26	55	150
	33.50	12.62	26.70	72.82
	46.00	17.33	36.67	
	61.06	92.86	84.62	
Total	113	28	65	206
	54.85	13.59	31.55	100.00

Table C: Compliance with Three-Year Standard by DVS Status at Admission, Industrial/Engineering Technologies

Compliance	First-Term Status			
Frequency Percent Row Percent Column Percent	Curriculum	DVS	Mixed	
<= 3 Years (Met Std)	27	0	9	
	23.28	0.00	7.76	
	75.00	0.00	25.00	
	42.19	0.00	24.32	
> 3 Years (Did not meet)	37	15	28	
	31.90	12.93	24.14	
	46.25	18.75	35.00	
	57.81	100.00	75.68	
Total	64	15	37	
	55.17	12.93	31.90	

Table D: Compliance with Three-Year Standard by DVS Status at Admission, Nursing/Health Sciences

Compliance	First-Term Status			
Frequency	Curriculum	DVS	Mixed	
Percent				
Row Percent Column Percent				
<= 3 Years (Met Std)	32	0	1	33
	17.88	0.00	0.56	18.44
	96.97	0.00	3.03	
	26.89	0.00	2.44	
> 3 Years (Did not meet)	87	19	40	146
	48.60	10.61	22.35	81.56
	59.59	13.01	27.40	
	73.11	100.00	97.56	
Total	119	19	41	179
	66.48	10.61	22.91	100.00

Chart 4: Mean Graduation Time in Years for Variables; Academic Probation at End of First Term and after First Term and Support Course by First-Term Status

