



Learning from the Past to Create the Future

A White Paper on Undergraduate
Retention and Graduation

George Mason University
Office of Student Academic Affairs, Advising & Retention
Office of Institutional Research & Reporting

Spring 2013

**Learning from the Past to Create the Future:
A White Paper on Student Retention and Graduation**

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This report examines the landscape at George Mason University related to retention and graduation rates. By gathering information on what we know about our retention and graduation trends, this report attempts to highlight the current context and identify areas for intervention. The primary questions that guided this overview include: What are the factors influencing Mason's four, five, and six-year graduation rates? What can we do to improve these rates?

Philosophical Underpinnings

An institutional commitment to student success, retention, and graduation is compatible with our mission to educate students, our concerns about affordability and cost, as well as our commitment to contributing to state and national goals around degree completion. Our commitment to retention and graduation is part of a broader commitment to student learning and engagement. Siegel (2011) makes a compelling case that retention and graduation are a by-product of excellence in teaching and an engaging campus culture. Integrating retention work into ongoing efforts to enhance and improve the undergraduate experience through high impact practices will improve our chances for success. The retention calculus is complex. Generally, we know that students are more likely to persist if they are academically prepared, academically engaged, and experience a sense of belonging in the university environment. The exact formula for persistence varies by student. A well prepared and engaged student may choose to leave the University for idiosyncratic and personal reasons. Indeed, a 100% retention rate is not plausible. However, it is reasonable to examine the institutional landscape to identify and remove the institutional barriers to timely graduation as well as invest in our current areas of strength. Kalsbeek (2013) offers the "4 Ps" framework (profile, progress, process, and promise) as a way to think about retention and graduation from an institutional perspective. By attending to broad trends and processes that affect most or all students, an institution can affect retention and graduation at a system level rather than the individual student level. The need for student interventions is strong, but Kalsbeek suggests that these interventions alone are not sufficient to achieve most institutional goals.

Initiatives

Mason's decision to join the Student Success Collaborative (SSC) coordinated by the Education Advisory Board will provide academic advisors with a locally developed set of predictors related to degree completion in a given major. [Note: our participation in the SSC will be shared with the Mason community as part of the strategic planning process.] Using Mason-specific data, consultants from the SSC will mine 10-years of student course-taking data to identify critical courses, key grade thresholds, and credit accumulation patterns that are predictive of success in every undergraduate major. The platform through which advisors access this analysis provides student-specific recommendations about courses and, perhaps, alternative degree pathways the might enhance that student's chances of degree completion. In addition, the campus migration to Degree Works this summer/fall offers students an easy

to understand evaluation of their degree progress and provides a course planning feature to help students monitor how well their course plan matches requirements. The tracking feature within Degree Works will give students the resources to monitor whether they are on pace to complete their degree. When students deviate from the recommended course sequence or earn grades that are below required thresholds, students will need to see their academic advisor for guidance in planning a path forward. Advisors will be focused less on the nuts and bolts of requirements and credit hours and be able to spend more time with students considering academic enrichment, co-curricular, and career preparation opportunities.

Retention Measures

Most often institutions report the retention of full time, first-year students. These students are captured in fall semester cohorts representing their first semester enrollment. Retention rates are reported as a percentage of the cohort that returns the subsequent fall, as well as those who complete their degree in four, five, or six years after matriculation.

At Mason, our overall university data demonstrate steady improvement in first-year retention over time; however, there was a dip in retention in 2007 that gradually has improved until this fall¹. In fall 2012, 86.3% of the fall 2011 cohort returned for a second year (a decrease from 87.2% for the previous cohort). All of this loss can be attributed to a lower retention rate for our out-of-state students. We retained 88.4% of in-state students from the fall 2011 cohort, but only 80.0% of the out-of-state students in this group (a 3.3% decrease from the previous year).

Retention Rates Total Full-time First-time Freshman Cohorts										
Year	Cohort	One Year	Two Year	Three Year	Four Year	Five Year	Six Year	Seven Year	Eight Year	Nine Year
2002	2,160	82.2	72.8	69.2	33.9	12.6	5.6	3.1	1.9	1.4
2003	2,191	83.2	76.4	72.9	33.1	11.0	5.6	3.1	2.0	1.2
2004	2,209	85.8	77.1	71.9	32.2	11.9	6.3	3.7	2.1	
2005	2,458	85.9	77.9	71.9	30.8	11.7	5.4	2.8		
2006	2,391	85.2	76.9	71.7	30.7	10.1	4.8			
2007	2,175	83.9	77.5	73.7	30.0	10.5				
2008	2,476	84.7	77.3	74.0	29.4					
2009	2,628	85.7	79.4	75.2						
2010	2,579	87.2	79.5							
2011	2,644	86.3								
2012	2,681									

¹ This drop coincided with a change in Mason’s method of calculating academic status (GPA retention levels for academic actions such as warning, suspension and dismissal). Previously, earned hours were used to determine good standing, which was a lenient system. Now attempted hours are used to identify earlier students who are in academic difficulty. This change in policy likely contributed to this slight decline in retention rates.

Retention Rates
First-time Freshman Cohorts by Domicile

Percentage of cohort that returns each fall

Year	Domicile	Cohort	One Year	Two Year	Three Year	Four Year	Five Year	Six Year	Seven Year	Eight Year	Nine Year
2002	In-State	1,832	83.1	74.5	70.5	35.4	13.4	5.9	3.2	2.1	1.5
	Out-of-State	328	77.1	63.7	61.9	25.6	8.5	3.4	2.4	0.9	0.6
2003	In-State	1,788	84.6	78.1	75.2	35.3	11.8	6.4	3.5	2.1	1.2
	Out-of-State	403	77.2	69.0	62.8	23.6	7.2	2.0	1.2	1.5	1.2
2004	In-State	1,772	86.9	78.7	73.4	34.4	13.1	6.7	4.1	2.3	
	Out-of-State	437	81.5	70.7	66.1	23.6	7.1	4.6	2.1	1.4	
2005	In-State	2,001	87.8	80.4	74.1	33.8	13.5	5.9	3.2		
	Out-of-State	457	77.7	67.4	62.6	17.3	3.5	3.3	1.3		
2006	In-State	1,915	86.2	78.5	73.7	34.2	11.4	5.5			
	Out-of-State	476	81.1	70.4	63.7	16.6	4.8	1.9			
2007	In-State	1,696	85.5	80.5	77.1	33.5	12.1				
	Out-of-State	479	78.1	66.8	61.6	17.5	5.0				
2008	In-State	1,957	86.6	79.9	76.6	32.2					
	Out-of-State	519	77.8	67.6	64.2	18.5					
2009	In-State	2,054	88.0	83.1	78.4						
	Out-of-State	574	77.2	66.4	63.8						
2010	In-State	1,986	88.4	81.8							
	Out-of-State	593	83.3	71.7							
2011	In-State	1,993	88.4								
	Out-of-State	651	80.0								
2012	In-State	2,114									
	Out-of-State	567									

Degree Completion Measures

Our graduation rates have steadily improved over time. The four-year graduation rate for the 2008 cohort is 44.3%, up from 43.3% for the 2007 cohort. The six-year graduation rate for the 2006 cohort is 65.9%. The table below reflects a big improvement in graduation rates in five years; some of these students may be able to graduate in four years with better planning and the elimination of institutional barriers. Consistent with retention rates, we have slightly higher graduation rates for in-state students compared with out-of-state students.

Graduation Rates
Total Full-time First-time Freshman Cohorts

Year	Cohort	One Year	Two Year	Three Year	Four Year	Five Year	Six Year	Seven Year	Eight Year	Nine Year
2002	2,160	0.0	0.0	1.9	35.6	55.2	61.2	63.8	65.2	65.7
2003	2,191	0.0	0.0	1.8	38.6	57.9	63.7	65.7	66.8	67.5
2004	2,209	0.0	0.1	1.7	39.3	58.2	63.6	65.8	67.3	
2005	2,458	0.0	0.0	2.1	40.7	58.7	64.4	67.0		
2006	2,391	0.0	0.0	2.5	41.5	61.0	65.9			
2007	2,175	0.0	0.1	2.0	43.3	61.2				
2008	2,476	0.0	0.1	2.0	44.3					
2009	2,628	0.0	0.0	2.0						
2010	2,579	0.0	0.0							
2011	2,644	0.0								
2012	2,681									

**Graduation Rates
First-time Freshman Cohorts by Domicile**

Percentage of cohort that returns each fall

Year	Domicile	Cohort	One Year	Two Year	Three Year	Four Year	Five Year	Six Year	Seven Year	Eight Year	Nine Year
2002	In-State	1,832	0.0	0.0	1.9	35.9	55.8	62.1	64.9	66.4	66.9
	Out-of-State	328	0.0	0.0	1.8	34.5	51.8	56.1	57.6	58.5	58.8
2003	In-State	1,788	0.0	0.1	1.7	38.4	58.7	64.7	66.9	68.2	68.9
	Out-of-State	403	0.0	0.0	2.2	39.7	54.1	59.3	60.0	60.5	61.0
2004	In-State	1,772	0.0	0.1	1.7	38.8	58.8	64.8	67.0	68.7	
	Out-of-State	437	0.0	0.0	1.6	41.6	55.8	58.4	60.9	61.8	
2005	In-State	2,001	0.0	0.0	2.1	39.6	59.0	65.7	68.4		
	Out-of-State	457	0.0	0.0	2.0	45.5	57.5	58.6	61.1		
2006	In-State	1,915	0.0	0.1	2.6	40.2	61.7	67.0			
	Out-of-State	476	0.0	0.0	2.1	46.8	58.4	61.1			
2007	In-State	1,696	0.0	0.1	2.2	43.9	63.7				
	Out-of-State	479	0.0	0.0	1.5	41.1	52.2				
2008	In-State	1,957	0.0	0.1	1.9	44.4					
	Out-of-State	519	0.0	0.0	2.3	43.9					
2009	In-State	2,054	0.0	0.0	2.1						
	Out-of-State	574	0.0	0.0	1.6						
2010	In-State	1,986	0.0	0.0							
	Out-of-State	593	0.0	0.0							
2011	In-State	1,993	0.0								
	Out-of-State	651	0.0								
2012	In-State	2,114									
	Out-of-State	567									

These data mask some activity relevant to the retention story. For example, if full time students become part time students, we would expect their time to degree to increase. However, cohort data assumes those who began as full-time freshmen are continuing in full-time status. For the 2006 cohort, of the 2,391 full time, first-year students, 127 or 5.2% became part-time students prior to 2011, their anticipated 4-year graduation date. In addition, 64.3% attended at least one summer school session. These data do not capture transfer student retention.

Transfer Student Retention and Graduation

The Office of Institutional Research and Reporting has measured persistence and graduation rates for transfer students. The chart below captures the progress of full-time transfer students with sophomore status. The three-year graduation rate is the “on time” graduation rate for these students, assuming full-time status was maintained. The one-year retention rates have ranged from 81.4% for the fall 2001 cohort to 86.9% for the fall 2009 cohort. Four-year graduation rates also have fluctuated (see 3-Year rates in the table), but the five and six-year graduation rates are stronger than the rates for our first-time, first-year students. That said, transfer students enter Mason with a clean slate because transfer course grades are not included in the calculation of Mason’s GPA, while our native students GPA includes all grades.

**Persistence and Graduation Rates:
Total Full-Time UG Transfer Sophomore**

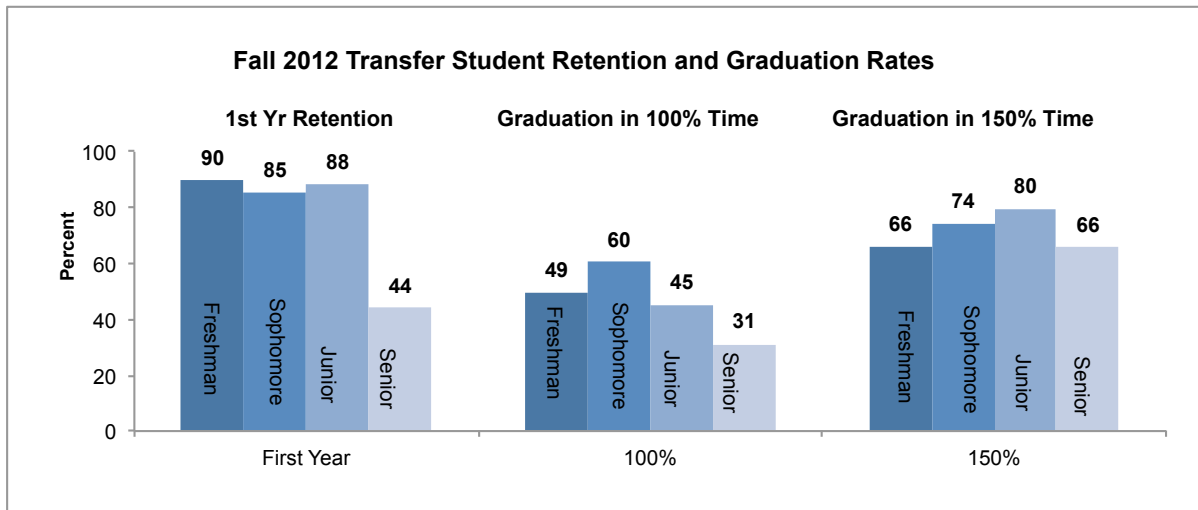
Total		Persistence Rates		Graduation Rates		
Fall	Cohort	1-Year	2-Year	3-Year	4-Year	5-Year
2002	638	83.7	58.3	49.8	64.4	69.1
2003	663	82.5	61.1	49.8	63.8	69.4
2004	650	83.4	59.2	54.2	67.5	70.9
2005	582	85.2	59.8	57.9	71.3	74.9
2006	612	86.8	59.3	56.2	69.4	73.5
2007	612	84.0	62.7	55.1	69.6	74.3
2008	624	86.7	63.8	56.1	69.6	
2009	739	86.9	65.2	60.4		
2010	644	83.5	60.7			
2011	653	85.3				
2012	517					

Data on full-time transfer students with junior status at the time of enrollment appear below. The two-year graduation rate represents “on time” graduation for this population. The five and six-year graduation rates (3-Year and 4-Year in the table below) are stronger than the native first-year students. Again, keep in mind that transfer students have an advantage because their performance prior to attending Mason is not tracked. In recent years, transfer student admission criteria have been raised, making transfer students more academically competitive.

**Persistence and Graduation Rates:
Total Full-Time UG Transfer Junior**

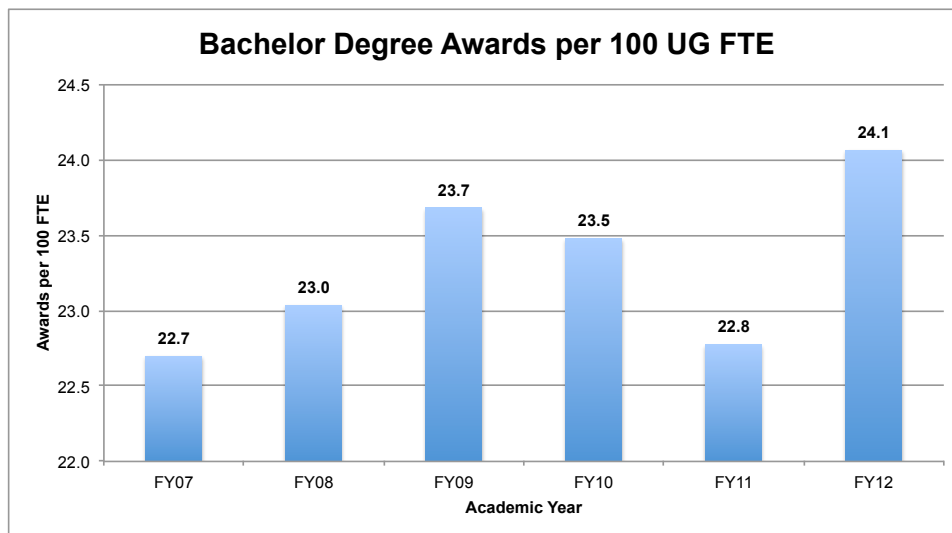
Total		Persistence Rates		Graduation Rates		
Fall	Cohort	1-Year	2-Year	2-Year	3-Year	4-Year
2001	456	83.8	30.3	50.0	71.7	76.1
2002	460	85.2	33.9	47.8	71.7	78.5
2003	494	88.5	38.1	47.4	74.3	78.7
2004	451	83.6	37.9	44.3	65.2	72.3
2005	406	88.7	41.1	46.8	73.6	80.5
2006	488	88.9	42.0	44.1	71.3	77.9
2007	500	86.8	42.6	43.4	69.6	77.4
2008	604	88.4	47.7	42.2	71.5	79.8
2009	779	86.0	45.7	40.6	70.2	
2010	840	87.3	41.3	45.1		
2011	892	88.1				
2012	905					

The following graph describes retention, four-year (100% time) and six-year (150% time) graduation rates for transfer students based on their class standing at the point of enrollment. Seniors’ low first-year retention rate is offset by a higher graduation rate. We would expect some students who arrive at Mason with 90 or more credit hours earned to complete degrees in one year. These students are not counted as retained in the first-year rate. In addition, some of these transfer students may be attending Mason to earn a second bachelor’s degree or a post-bacheloreate certificate. Only recently have these students been handled differently in the data analysis process.



Alternative Measures of Degree Completion

Given the large number of students who come to Mason as transfer students, we might consider additional alternative measures of degree completion. One option is to calculate the number of bachelor's degrees awarded per 100 FTE undergraduates, a measure once used as part of the Commonwealth Institutional Performance Standards. This calculation offers an efficiency measure. High values on this measure mean a university awards a high number of degrees relative to the number of undergraduates enrolled. Ideally, if everyone who entered as a freshman graduated and there were no transfer students, the awards to student FTE would be 25.0. This measure includes all undergraduates, not just those who entered the institution as full time, first-year students. Our strong transfer student population contributes to our high ratio.



Finally, by examining National Clearinghouse data, we can track whether students who began their college experience at Mason but transferred to another institution completed their degrees. From a

national perspective, degree completion is an important goal even if a student does not complete a degree at Mason.

Freshman Cohort Graduating from Any College

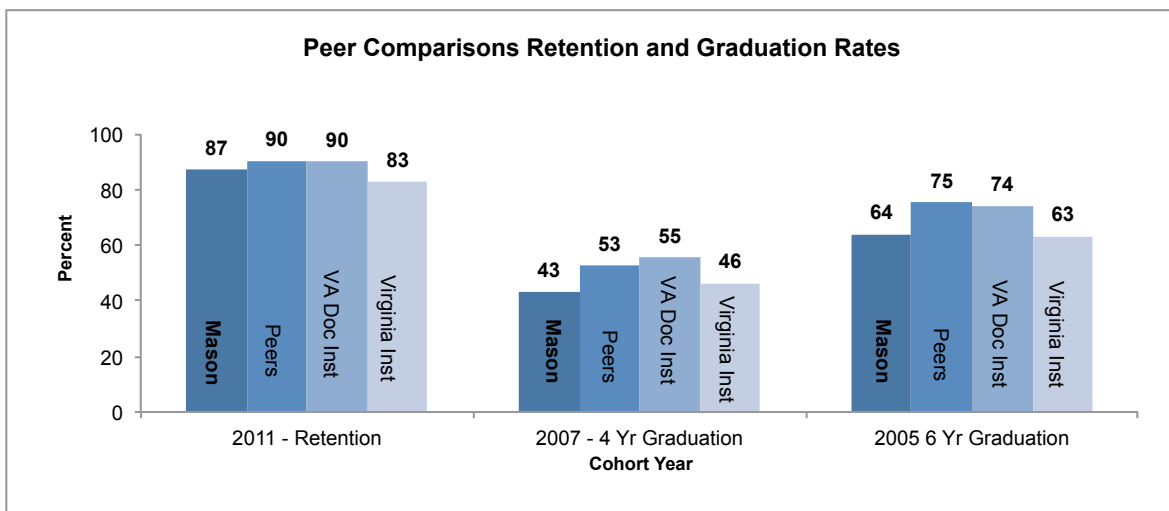
Cohort	N	Mason 1-year Retention	Clearinghouse 1-year Retention	Mason 6-year Graduation	Clearinghouse 6-year Graduation
2005	2458	85.9%	97.6%	64.4%	72.7%
2006	2391	85.2%	97.5%	65.9%	76.3%

Sources: IRR & National Student Clearinghouse December 2012

In the 2005 first-time, first-year cohort, 347 students did not return for their second year. Of these, we know from the Clearinghouse that 288 transferred to another institution for fall 2006. Of the 675 students in this cohort who did not graduate in 6 years, 369 transferred to another institution and 205 graduated in 6 years from another institution. For this cohort of students, 72.7% graduated from a college 6-years after matriculating at Mason.

Comparison Data

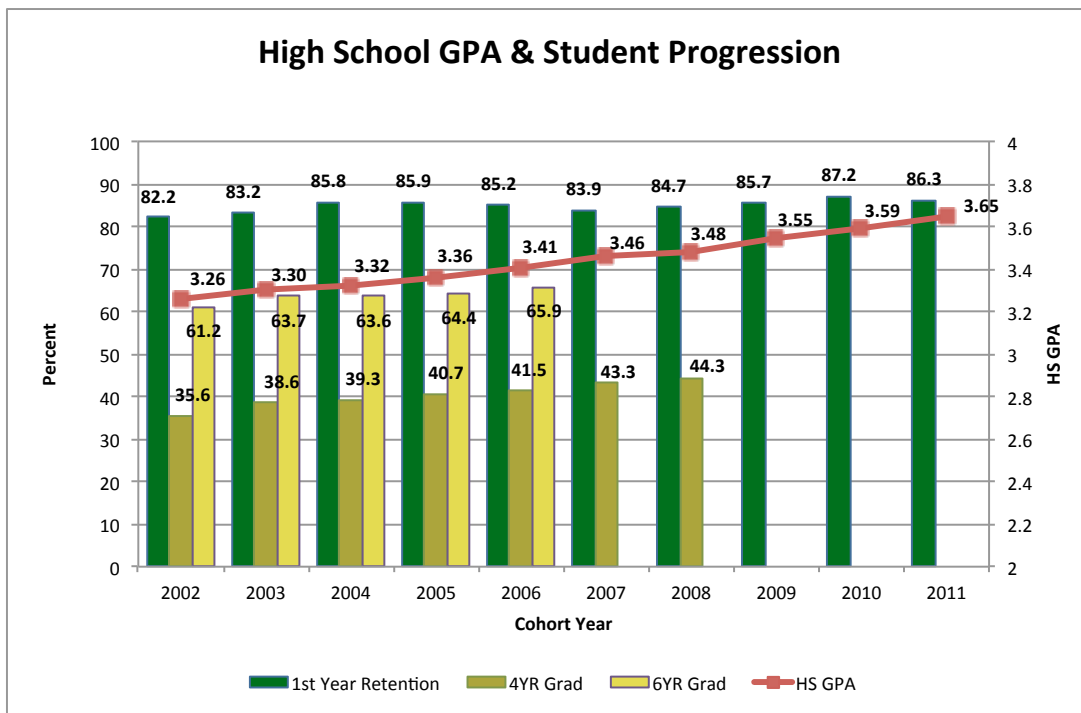
How does Mason compare with other institutions? Mason’s four-year graduation rate is 44.3%, compared to the average four-year graduation rate for national research universities of 43%. Compared with peer institutions and other Virginia institutions, Mason’s first-year retention rate is competitive, but not as strong as Virginia doctoral institutions or our peers; it is higher than other Virginia institutions, however. Mason’s four-year graduation rate compares similarly. While our six-year graduation rate is close to the bottom of this comparison group (for the 2008 cohort), Mason continues to outperform its predicted graduation rate given the entering student profile (*US News and World Report*). See Appendix A for a list of peer institutions.



Academic Profile

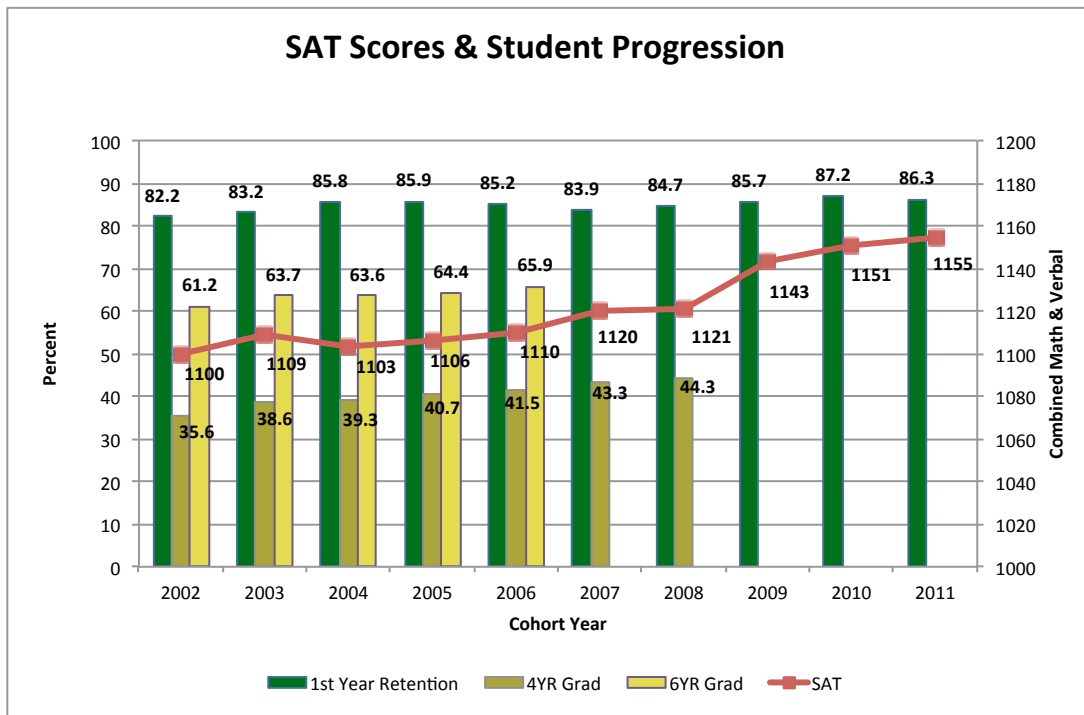
The best predictor of graduation rates is the student academic profile. Entering average ACT or SAT scores account for 75% of the variance in graduation rates (Kalsbeek, 2013). As SAT scores and high school grades (HS GPA) increase, retention and graduation rates increase. HS GPA tends to capture additional non-cognitive factors such as motivation less likely to be represented by SAT scores. Mason’s retention and graduation rate trends need to be compared to the profile of the students admitted to the university.

One way to capture the influence of incoming characteristics of Mason students is to compare graduation rates to average HS GPAs and SAT scores across several cohorts. In general, we would expect our retention and graduation rates to improve as the entering profile of our students improves. The chart below maps the average HS GPA of our entering first-year cohorts against their first-year retention rates as well as four and six-year graduation rates. As the profile of our entering students improves, as measured by HS GPA, retention and degree completion rates improve. Note that the strong retention rate relative to HS GPA in 2007 erodes by 2011. This trend could suggest that Mason may be not be outperforming, at least to the same degree, the entering profile predictors in terms of retention and graduation rates.

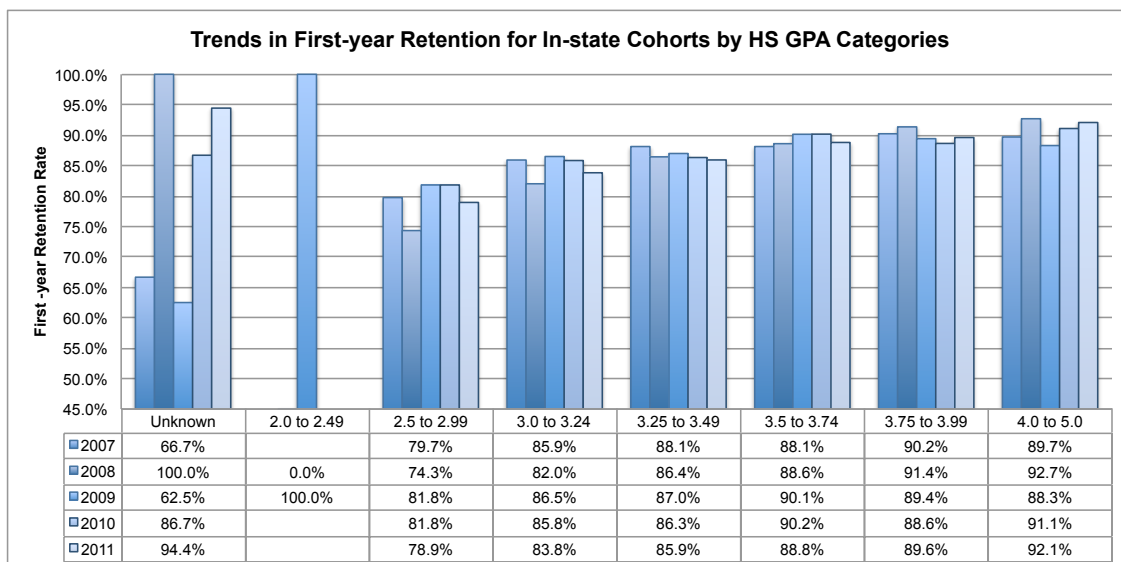


These trends related to high school grades seem more meaningful than the data related to SAT. Note, in 2006, Mason became “score optional,” meaning applicants did not have to submit standardized test scores as part of the admission process. According to Admissions, about 10% of the applicant pool

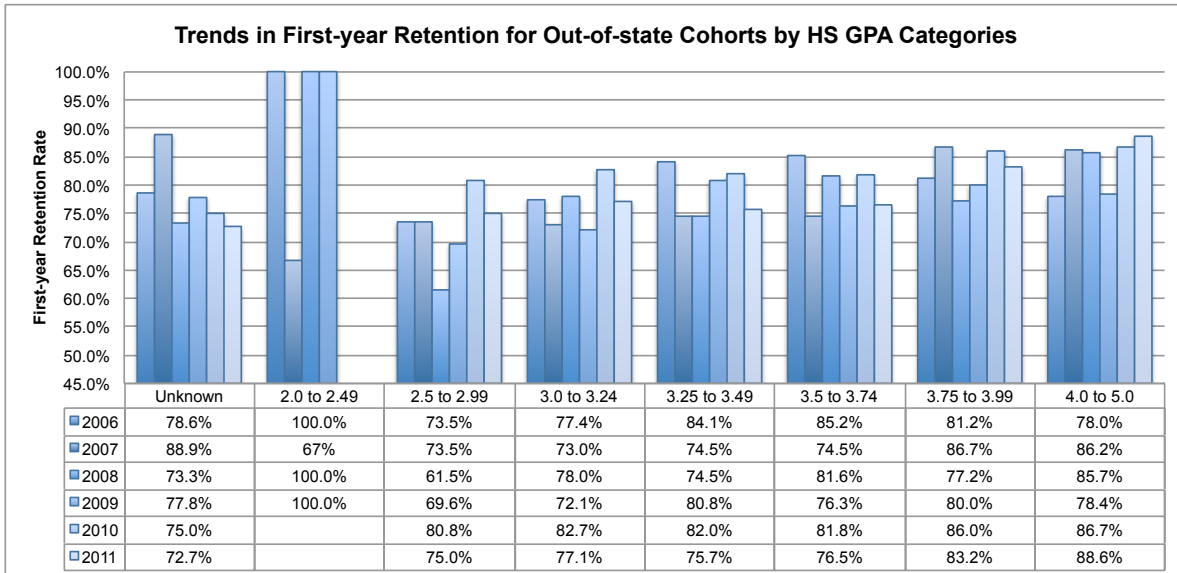
chooses this option. The graph below plots the change in average entering SAT scores (combined Verbal and Math scores) against first-year retention, four-year and six-year graduation rates per cohort.



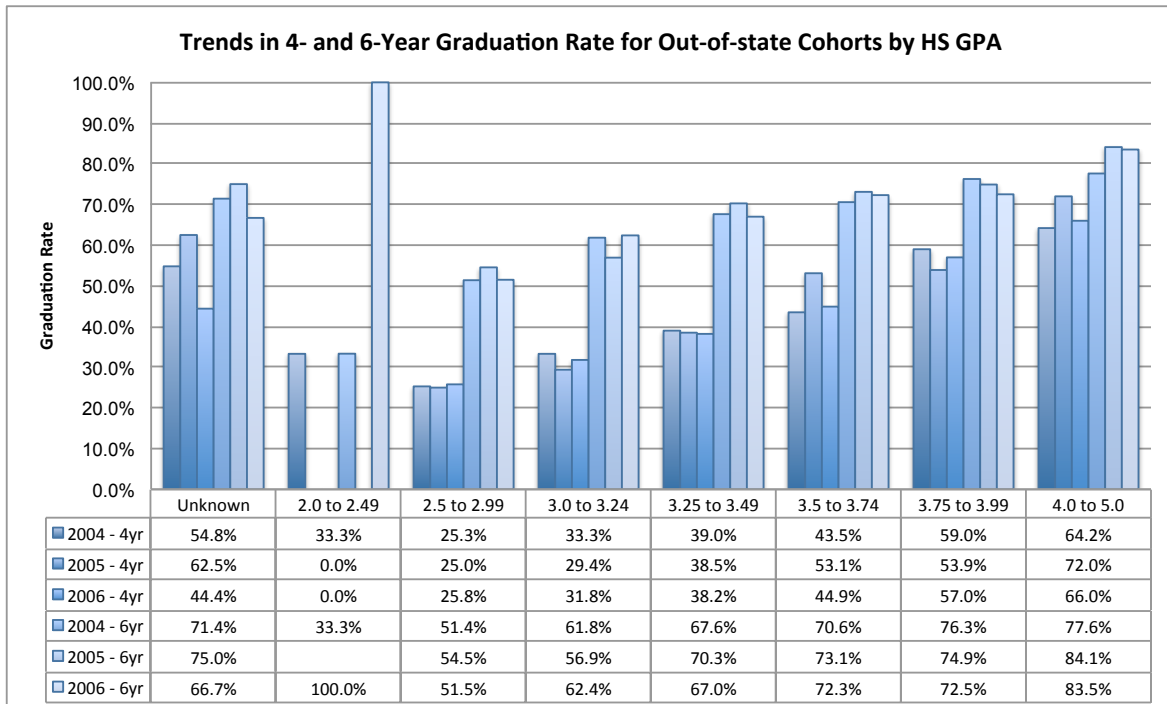
Given the differences in retention rates for in-state and out-of-state students, it makes sense to examine these residency statuses separately. For in-state students, the following graph depicts first-year retention rates by cohort and HS GPA categories. These results may be influenced to some degree by the size of the group within HS GPA range, but further analysis is necessary to determine other factors that may be affecting the year-to-year differences. See Appendix B for more details on group sizes.



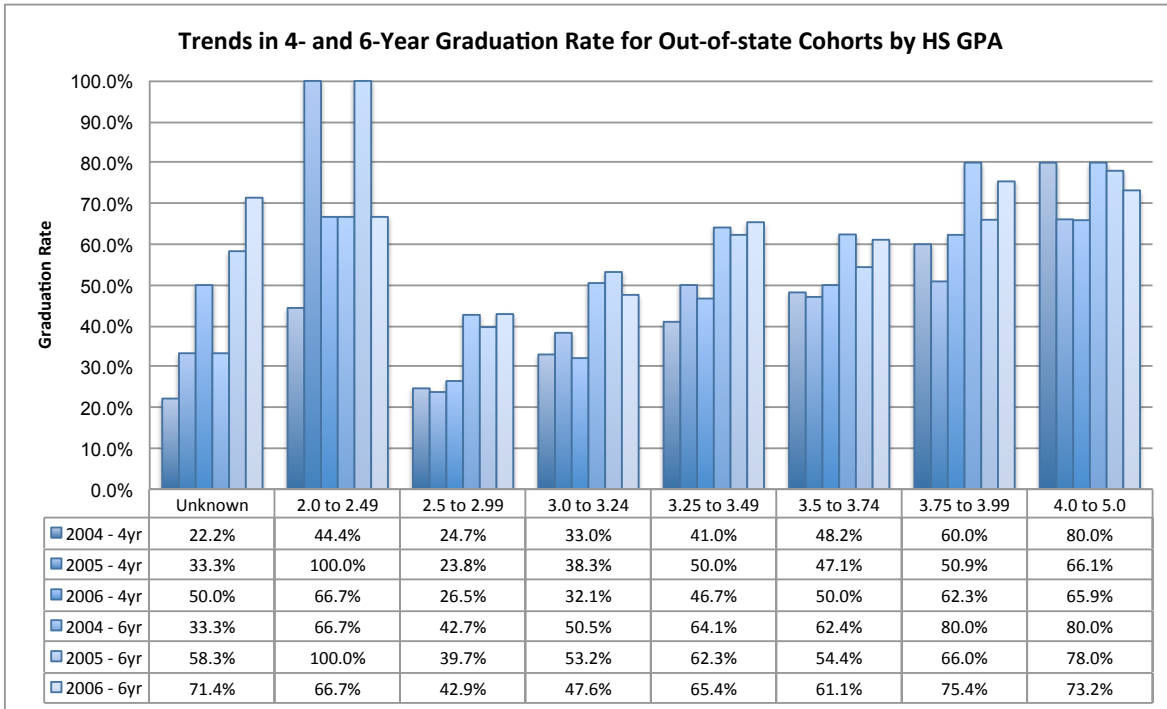
The story for out-of-state students is depicted in the table below. It appears, over time, our retention rates are stronger for out-of-state students who come to Mason with very high (4.0 – 5.0) average HS GPAs, or more modest preparation, average HS GPAs in the 2.5 – 2.99 range. Again, further analysis is warranted.



For in-state students, the expected relationship between a stronger incoming profile and graduation rates appears below. Generally, the higher the average HS GPA, the stronger the graduation rates.



The graduation rates for out-of-state students is less linear; students with lower entering HS GPAs seem to do as well as those with a higher incoming profile.

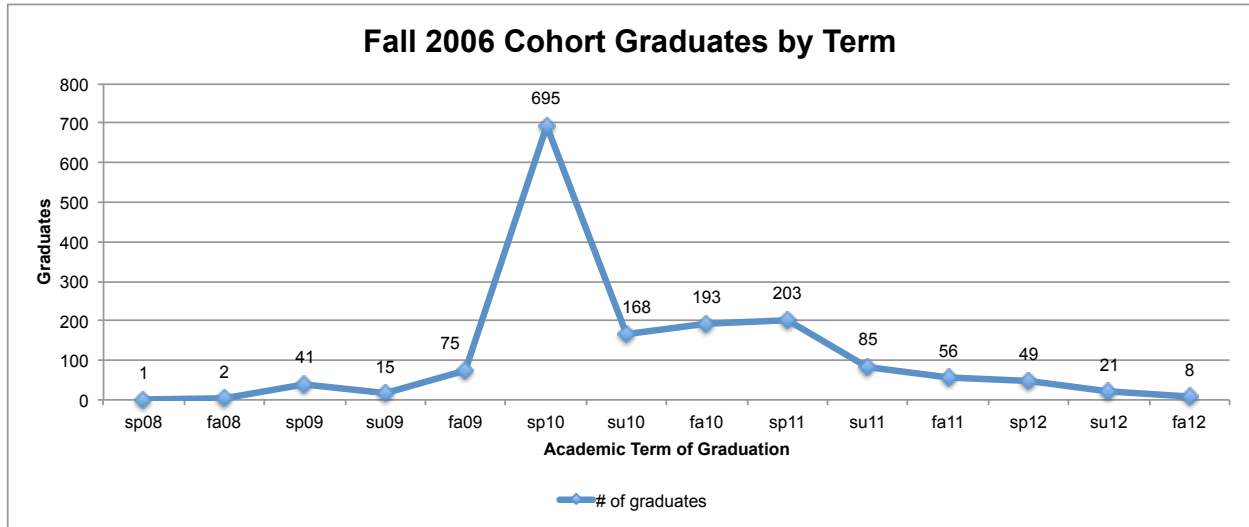


Interventions

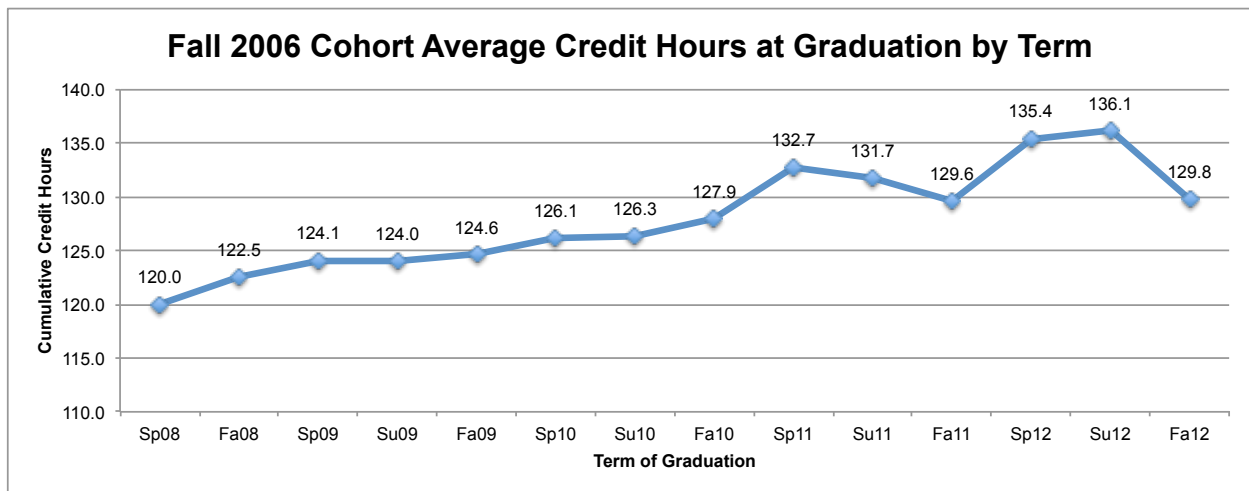
There are two opportunities for intervention. One approach is to reduce attrition. Attrition is caused by dropping out or being asked to leave (because of misconduct or poor academic performance). Preventing attrition includes a focus on engagement and academic challenge and support. Another approach is to facilitate “on time” degree progress. The University of Texas refers to this second approach as “throughput”: those activities that help students make satisfactory progress toward a degree, including the reduction of institutional barriers.

Using the 2006 cohort as an illustration, of the 34% who do not graduate in six years at Mason, how many eventually graduate? Seven, eight, and nine years after matriculation, we can anticipate that an additional 3 – 4.5% of students will graduate. Of the remaining 30% of the cohort, can we get more of these students to persist? Five percent continue to be enrolled. Some students will be dismissed for academic problems (0.2% after 12 semesters), others, about 8%, have holds on their records preventing them from registering, and a third group is asked to leave for conduct violations. Adjusting for these, approximately 15% to 17% of the cohort is the target audience for retention efforts aimed at reducing attrition based on poor academic performance or social and academic integration issues.

The graph below suggests that several hundred students might be able to accelerate their time to degree to finish in four years (spring 10). If 200 students who graduated in summer 10 or fall 11 could complete in spring 10, then the four-year graduation rate would improve from 41.5% to 49.8%.

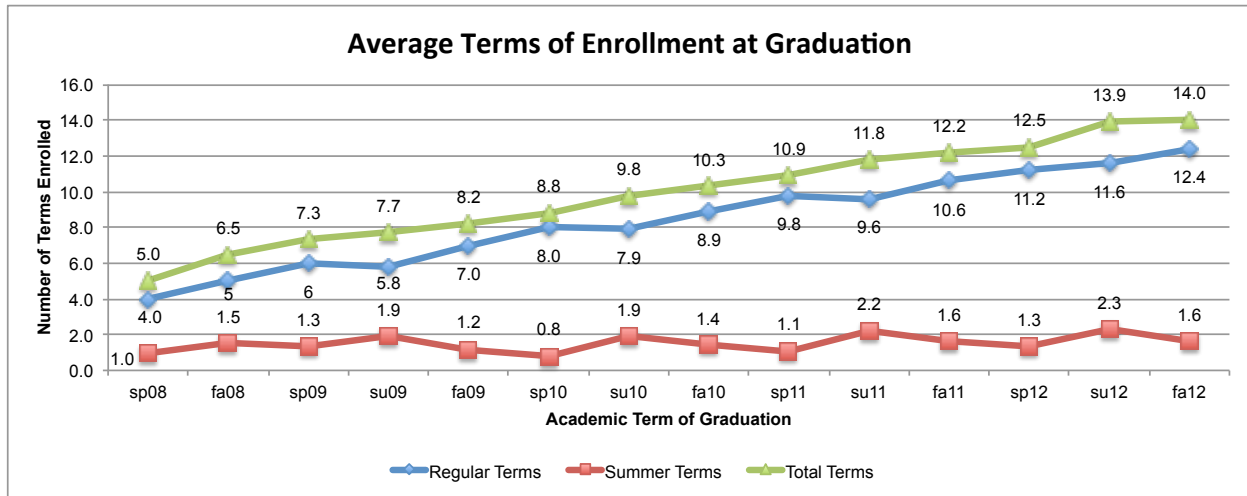


Students who graduate early or “on time” earn between 120 – 126 credit hours, on average. In general, the longer a student takes to complete his/her degree, the more credit hours are accumulated. In some cases students are graduating with more than a full semester’s worth of credits beyond the 120 needed for graduation. Students may happily elect to take more than 120 hours for a bachelor’s degree, but the concern is if poor planning, poor advising, or late changes of major are behind these larger credit hour totals.



Retention and graduation rates by college or school are challenging because our institutional records connect students to their original major. Given this shortcoming and the fact that two-thirds of Mason students change their major at least once, the trend data by college has been recomputed to capture changes of major and will be shared with units to facilitate the planning of their retention efforts.

By examining the average number of enrolled terms at graduation, we see that over time students are enrolling in more terms to complete degree requirements. More analysis is needed to understand if this pattern reflects a growing number of students who are enrolled part-time or stop out for at least a few terms or if students are accumulating more hours to complete degree requirements.



Interventions to reduce attrition include supporting strong academic performance and improving academic and social engagement. There are many activities already in place at Mason to help reduce attrition, including: an early alert system and response via Direct Connects; mid-term grade reporting; placement exams (e.g., Math); learning services; tutoring; peer support; writing center; accelerator program; EIP; Pathway to the Baccalaureate; housing and residence life programming and staff support; off-campus programming; LLCs; student involvement; orientation; academic advising; UNIV 100; undergraduate research; experiential learning; study abroad; internships. This list is not exhaustive, but illustrates the range of outreach efforts currently practiced. Note that these efforts tend to be focused more on individual students.

Interventions to improve “throughput”

Student Expectations (Promise)

Mason students report a “finish in four” mindset. Based on the MAP-Works survey administered fall 2012, 94% of the first-year student respondents indicated their intention to complete their degree in four years. We have a lot of confidence in this statistic because 80.4% of the full time, first-year students on campus completed the MAP-Works survey. This perspective likely is cultivated through family expectations and summer orientation messages. What messages does Mason give students through its policies and practices?

Academic Advising (Process)

Approximately 34% of students persist in the major declared at the point of admission (based on a 6-year graduation for the 2006 cohort). By taking a developmental approach to academic advising, students can explore curricular and career options in their first few semesters. When advisors assume

students may change paths, they can recommend courses that meet requirements and allow students to shift direction with minimum difficulty. Creating exploratory paths for students may require a structural change to advising at Mason, such as campus-wide culture of professional advisors.

Degree Audit (Progress)

Implementing Degree Works and the course planning function will provide academic advisors with a platform for sharing advising notes. By expanding the advising functions of Degree Works, Mason could offer students an efficient way to monitor their own degree progress. The course planning function of Degree Works asks students and advisors to create a four- year plan with the preferred sequencing of courses. Students can work with advisors to modify their plans if they need to enroll part-time or change majors. Students are notified through Degree Works when their course-taking behavior deviates from their academic plan. When the technology signals a student is off track, a hold is placed on the student’s record so he/she must see an academic advisor for guidance, program adjustment, and to have the hold removed. The planning feature of this system allows departments to anticipate course demand, which should facilitate having enough seats available in key courses. How does Mason ensure the courses will be available for the students who are monitoring their progress and on track to graduate?

Academic and Career Exploration (Progress; Process)

Mason is considering creating “exploratory” tracks for undeclared students. At Florida International University, there are six curricular exploratory clusters or tracks from which Exploratory students can choose: (a) Administration and Management, (b) Biological and Environmental Sciences, (c) Global and Social Sciences, (d) Humanities and Arts, (e) Nursing and Health Sciences, and (f) Physical Sciences and Engineering. Student Academic Affairs, Advising and Retention staff members are collaborating with University Career Services to provide integrated guidance to students who are unsure of their major or future career goals. Integrating career competencies into the co-curricular transcript is a goal for the coming year.

Examine Courses with High Rates of Failure (Progress; Process)

The table below reports aggregate data for each college or school of the percentage of grades that were D, F, or Withdrawals.

Grades of D, F, and Withdrawals by College and Year

College	2008-2009			2009-2010			2010-2011			2011-2012		
	Enrolled	DFW Count	DFW %	Enrolled	DFW Count	DFW %	Enrolled	DFW Count	DFW %	Enrolled	DFW Count	DFW %
CEHD	8,003	381	4.8%	9,148	427	4.7%	9,357	436	4.7%	10,101	442	4.4%
CHHS	8,063	188	2.3%	7,678	180	2.3%	8,560	240	2.8%	8,773	242	2.8%
CHSS	69,174	7,033	10.2%	73,227	6,914	9.4%	74,547	6,660	8.9%	75,596	6,945	9.2%
COS	28,068	5,022	17.9%	29,349	5,150	17.5%	30,263	5,262	17.4%	31,949	5,235	16.4%
CVPA	13,398	769	5.7%	14,229	877	6.2%	14,678	957	6.5%	15,336	930	6.1%
S-CAR	1,076	68	6.3%	1,149	77	6.7%	1,446	81	5.6%	1,589	133	8.4%
SOM	24,235	3,025	12.5%	23,965	3,349	14.0%	23,205	3,544	15.3%	22,436	3,156	14.1%
VSE	16,232	2,583	15.9%	17,165	2,666	15.5%	18,410	2,933	15.9%	20,188	3,026	15.0%
PROVOST	1,913	123	6.4%	2,679	131	4.9%	7,918	180	2.3%	10,970	154	1.4%
TOTAL	170,162	19,192	11.3%	178,589	19,771	11.1%	188,384	20,293	10.8%	196,938	20,263	10.3%

Another way to view these data is to identify individual courses that consistently have 25% or more of the students earning grades of DFW. The table in Appendix C highlights these high failure rate courses. The extent to which these courses are gateway courses to a major, they signal an opportunity for intervention for additional academic support or academic advising to encourage a different academic path. Research conducted by the Student Success Collaborative will guide discussions about these bottleneck courses.

Gateway Courses (Progress; Process)

Gateway courses typically introduce students to a major or are a required course in a major. Sometimes informally called “weed out” courses, these courses can derail students in completing the major. There is a national dialogue about these types of courses and their high failure rates that “close the door to student progression toward degree.” Is this an issue at Mason? Can key major courses be moved earlier in the curriculum to help students make the decision to change majors earlier, if needed? The Student Success Collaborative will provide insights into this problem.

Failing Key Courses (Progress)

Students who do not perform well in required classes often choose to retake those courses, putting them behind on their four-year plan. If these required classes appear late in the student’s curriculum, the failure might prompt a reconsideration of the major. Advising intervention is needed to support students in making decisions with a clear understanding of the implications for graduation.

Repeating Courses (Process)

Students who repeat courses may be doing the right thing. However, repeating a course multiple times without success is not conducive to meeting degree requirements in a timely fashion. Academic units need to intervene with students who are repeating courses. Adopting a university-wide course repeat policy with humane enforcement could help. Students not able to make progress in their chosen major need guidance on how to achieve their goals via other majors. The Student Success Collaborative will enable programs to identify performance indicators that might indicate the likelihood of success if a course is repeated.

Experiential Learning (Progress; Process)

Working while in school or taking advantage of co-ops/internships that are recommended for major can be great learning experiences, but these opportunities may delay time to degree. Academic programs that recommend these experiential options need to be forthcoming with prospective students about how these experiences might affect degree progress. Students need to be aware of both the costs and the benefits.

Credit Progression (Progress)

The minimum requirement for graduation is 120 credit hours. Students who average 15 credit hours a semester are on track to complete 120 credits in 4 years. However, we know that students, as early as their first semester, fall below 15 credits. Of the first-year students responding to the MAP-Works survey, 46% (n= 1,244) earned 14 or fewer credits in fall term. Students who entered Mason with AP, IB,

or CLEP credits, but who took fewer than 15 credits may not be included in these figures if the credits by exam on their record compensated for the hours not taken in the fall. However, the cushion afforded by these exam-based credits will vanish over time. Undergraduate students on warning, probation, or returning from suspension are limited to a maximum of 13 credits for following semesters until they achieve good standing.

Policies (Process)

If a student wishes to take more than 16 hours in a semester, he/she is required to pay the “per credit hour” charge for each additional hour. This policy affects students in a variety of ways. Many of our high performing students are capable of carrying more than a 16-credit hour load but are penalized for doing well and exceeding progression expectations because they must pay additional tuition and fees to take what they consider a full load each semester. For students who start out slow but want to take more than 16 hours to stay on track to graduate in four years, they are penalized with added tuition and fee costs. For the student who is struggling in a course fall semester and is advised to drop it, he/she could fall below the optimal credits enrolled for the semester. Dropping a 3-credit course from 16-credit hour schedule will keep a student full time (at 13 credits), but leaves the student 2-hours short of the 15 credit hour average needed to graduate in four years with 120 credit hours. We have collected data on the credit hour policies of our peer institutions as well as Virginia four-year public institutions and have learned that an 18-credit hour limit is most common before additional charges or the need for permission applies.

The Study Elsewhere policy may put unreasonable restrictions on students who need to take a course over the summer or at NOVA to make steady degree progress.

One academic unit (CHSS) restricts credit by exam. Students must complete CLEP tests prior to matriculating at Mason for the credit to be applied to their degree. Greater consistency and leniency on alternative credits should be considered.

Mason needs to consider a formal leave of absence/withdrawal policy. We have incomplete information about why students leave Mason and where they choose to go.

Policies that affect how often a student may repeat a course and when a student is terminated from a major or school/college need to be examined for retention consequences. Mason needs to provide strong academic advising for alternative pathways to a degree. Is it possible to apply the clemency policy to individual courses taken by students who are changing majors because of termination? These student cannot remedy their poor performance by retaking a course(s).

Students who do not pay their bills by a certain date have their accounts sent to a collections agency. How often does this happen and is there a more courteous way to get payment? What are the key deadlines and might they be modified to support students better?

Changing Majors (Progress; Process)

Advisors report that when students change major, they often add time to degree. Some changes are managed without the need for extensive additional course work, but others changes can add multiple semesters to a student's college career. Providing strong advising support to students who are new to the University and ensuring that their course selection is versatile is one way to help students stay on track.

Dropping Courses (Progress; Process)

When students drop courses, they do not always understand the implications of that decision. The way the University promotes selective withdrawal may need to be modified to reinforce the consequences of dropping classes. Advisors need to reinforce the basic math of reaching 120 credit hours in four years.

Summer Classes (Progress)

Advisors commented that there are too few summer school offerings available to students that are appropriate for the compressed time frame.

Financial Concerns (Progress; Process)

In some cases students with financial concerns decide to work many more hours that is optimal for full-time status. These students may drop to part time or may struggle to do well academically given the constraints on their time. Another method for examining trends in retention and graduation rates is to compare them to trends in tuition costs.

Course Availability (Process)

It is difficult to create a four-year course plan because the pattern of course offerings is not always consistent. In addition, there are few online course options. The DE courses available need to include clear descriptions of the nature of the online experience, whether there is any formal in class component and whether the course is synchronous or asynchronous.

Additional Concerns

We need to examine pressure points for enrollments. Which majors restrict access to their majors in such a way as to turn away interested students (demand exceeds capacity)? Which majors take more than 4 years to complete? Are there pathways that take more than four years intentionally? What are the barriers to completing in four years for our students?

This report will shape the work of the Student Success and Retention Action Council. The Council will follow up on some of the questions raised in this document and develop a comprehensive framework for future action. We will identify subcommittees to review specific data and intervention strategies, and design implementation and assessment strategies.

Appendix A

George Mason University Peer Institutions

(effective 7/19/2011)

Arizona State University at the Tempe Campus
Boston University
Florida State University
George Washington University
Michigan State University
New York University
North Carolina State University at Raleigh
Northeastern University
Rutgers University-New Brunswick/Piscataway
SUNY at Albany
Stony Brook University
Syracuse University
Temple University
University of Arizona
University of Connecticut
University of Florida
University of Illinois at Urbana-Champaign
University of Kansas Main Campus
University of Maryland-College Park
University of Massachusetts-Amherst
University of Minnesota-Twin Cities
University of Nebraska at Lincoln
University of North Carolina at Chapel Hill
University of Southern California
University of Washington-Seattle Campus

Appendix B

Six-year Graduation Rates by Domicile

			2004 Cohort				2005 Cohort				2006 Cohort			
			Fall 2004		6-year Grad		Fall 2005		6-year Grad		Fall 2006		6-year Grad	
In-State	Missing	Active	42	100	4	9.5	24	100	0	0	9	100	0	0
		Graduated	0	0	30	71.4	0	0	18	75	0	0	6	66.7
	2.00 to 2.49	Active	6	100	0	0	0	0	0	0	1	100	0	0
		Graduated	0	0	2	33.3	0	0	0	0	0	0	1	100
	2.50 to 2.99	Active	288	100	35	12.2	308	100	32	10.4	132	100	9	6.8
		Graduated	0	0	148	51.4	0	0	168	54.5	0	0	68	51.5
	3.00 to 3.24	Active	511	100	37	7.2	555	100	40	7.2	550	100	43	7.8
		Graduated	0	0	316	61.8	0	0	316	56.9	0	0	343	62.4
	3.25 to 3.49	Active	420	100	23	5.5	491	100	22	4.5	557	100	34	6.1
		Graduated	0	0	284	67.6	0	0	345	70.3	0	0	373	67
	3.50 to 3.74	Active	299	100	13	4.3	350	100	19	5.4	376	100	11	2.9
		Graduated	0	0	211	70.6	0	0	256	73.1	0	0	272	72.3
	3.75 to 3.99	Active	139	100	6	4.3	191	100	4	2.1	193	100	6	3.1
		Graduated	0	0	106	76.3	0	0	143	74.9	0	0	140	72.5
	4.00 to 5.00	Active	67	100	1	1.5	82	100	1	1.2	97	100	2	2.1
		Graduated	0	0	52	77.6	0	0	69	84.1	0	0	81	83.5
Out-of-State	Missing	Active	9	100	0	0	12	100	0	0	14	100	0	0
		Graduated	0	0	3	33.3	0	0	7	58.3	0	0	10	71.4
	2.00 to 2.49	Active	9	100	0	0	2	100	0	0	3	100	0	0
		Graduated	0	0	6	66.7	0	0	2	100	0	0	2	66.7
	2.50 to 2.99	Active	89	100	7	7.9	63	100	2	3.2	49	100	0	0
		Graduated	0	0	38	42.7	0	0	25	39.7	0	0	21	42.9
	3.00 to 3.24	Active	97	100	4	4.1	94	100	2	2.1	84	100	2	2.4
		Graduated	0	0	49	50.5	0	0	50	53.2	0	0	40	47.6
	3.25 to 3.49	Active	78	100	4	5.1	106	100	4	3.8	107	100	3	2.8
		Graduated	0	0	50	64.1	0	0	66	62.3	0	0	70	65.4
	3.50 to 3.74	Active	85	100	5	5.9	68	100	4	5.9	108	100	3	2.8
		Graduated	0	0	53	62.4	0	0	37	54.4	0	0	66	61.1
	3.75 to 3.99	Active	35	100	0	0	53	100	2	3.8	69	100	1	1.4
		Graduated	0	0	28	80	0	0	35	66	0	0	52	75.4
	4.00 to 5.00	Active	35	100	0	0	59	100	1	1.7	41	100	0	0
		Graduated	0	0	28	80	0	0	46	78	0	0	30	73.2

Appendix C

Courses for 2011-2012 from summer, fall, spring with high percentage of DFW grades, per college or school (threshold for most schools/colleges is 20% DFW; COS is 25%)

Courses with a High Percentage of D and F Grades and Withdrawals				
College	Course	Enrolled	Number of DFWs	Percent of DFWs
CEHD	PHED 450	38	16	42.1%
	PHED 364	24	5	20.8%
CHHS*	SOCW 400	21	4	19.0%
CHSS	COMM 362	32	8	25.0%
	CRIM 300	116	25	21.6%
	ECON 103	949	286	30.1%
	ECON 340	22	6	27.3%
	ECON 345	66	15	22.7%
	ECON 470	24	7	29.2%
	ENGL 203	23	7	30.4%
	ENGL 425	24	5	20.8%
	HIST 314	33	8	24.2%
	HIST 352	40	9	22.5%
	HIST 370	43	9	20.9%
	HIST 499	54	13	24.1%
	FREN 250	24	5	20.8%
	ITAL 110	65	13	20.0%
	PHIL 173	88	23	26.1%
	PHIL 340	20	4	20.0%
	PSYC 304	29	7	24.1%
	PSYC 375	54	12	22.2%
	GOVT 356	29	12	41.4%
	GOVT 366	28	7	25.0%
	GOVT 452	43	11	25.6%
	SOCI 308	24	5	20.8%
	SOCI 310	41	10	24.4%
	SOCI 412	37	10	27.0%
	ECON 340	38	8	21.1%
	ECON 345	73	18	24.7%
	ECON 435	23	8	34.8%
	ENGL 203	23	8	34.8%
	ENGL 336	51	14	27.5%
	ENGL 471	25	5	20.0%
	ARTH 385	35	12	34.3%
	CLAS 340	28	9	32.1%
	PHIL 112	65	14	21.5%
	PHIL 173	58	22	37.9%
	PHIL 303	38	8	21.1%
	PHIL 374	31	8	25.8%
	PSYC 309	35	8	22.9%
	GOVT 336	34	9	26.5%
	GOVT 342	48	11	22.9%

Continued

*No courses meet the selection criteria. The course with the highest DFW % is reported.

**Courses with a High Percentage of D and F Grades and
Withdrawals (continued)**

College	Course	Enrolled	Number of DFWs	Percent of DFWs
	GOVT 343	28	12	42.9%
	GOVT 452	45	11	24.4%
	SOCI 303	59	13	22.0%
	SOCI 308	23	6	26.1%
	SOCI 315	25	5	20.0%
	SOCI 332	40	10	25.0%
	SOCI 352	35	9	25.7%
COS	MATH 214	34	11	32.4%
	BIOL 425	38	11	28.9%
	CHEM 313	394	103	26.1%
	CHEM 314	40	12	30.0%
	CHEM 321	43	13	30.2%
	GGS 102	80	20	25.0%
	MATH 104	27	10	37.0%
	MATH 105	235	63	26.8%
	MATH 108	279	92	33.0%
	MATH 113	350	122	34.9%
	MATH 114	238	126	52.9%
	MATH 125	119	46	38.7%
	MATH 290	46	12	26.1%
	MATH 313	20	9	45.0%
	MATH 315	28	10	35.7%
	MATH 321	31	15	48.4%
	BIOL 124	466	126	27.0%
	BIOL 304	168	71	42.3%
	BIOL 326	25	8	32.0%
	BIOL 425	103	31	30.1%
	BIOL 465	26	8	30.8%
	ASTR 103	87	26	29.9%
	PHYS 160	170	78	45.9%
	PHYS 243	375	106	28.3%
	PHYS 262	32	15	46.9%
	PHYS 266	21	7	33.3%
	GEOL 101	218	64	29.4%
	CHEM 211	202	56	27.7%
	CHEM 313	77	25	32.5%
	CHEM 314	264	67	25.4%
	CHEM 332	27	7	25.9%
	MATH 105	163	60	36.8%
	MATH 108	357	137	38.4%
	MATH 113	326	102	31.3%
	MATH 114	269	133	49.4%

Continued

*No courses meet the selection criteria. The course with the highest DFW % is reported.

**Courses with a High Percentage of D and F Grades and
Withdrawals (continued)**

College	Course	Enrolled	Number of DFWs	Percent of DFWs
	MATH 125	152	48	31.6%
	MATH 213	151	41	27.2%
	MATH 214	116	36	31.0%
	MATH 301	25	9	36.0%
	BIOL 124	23	8	34.8%
	BIOL 213	413	112	27.1%
	BIOL 246	85	26	30.6%
	BIOL 303	232	72	31.0%
	BIOL 304	173	57	32.9%
	PHYS 160	200	80	40.0%
	PHYS 307	23	8	34.8%
	PHYS 308	20	7	35.0%
CVPA	MUSI 490	27	6	22.2%
	AVT 313	30	6	20.0%
	MUSI 100	96	22	22.9%
	MUSI 213	34	10	29.4%
	MUSI 331	63	17	27.0%
	MUSI 431	52	21	40.4%
	THR 230	28	6	21.4%
S-CAR*	CONF 301	30	5	16.7%
SOM	ACCT 331	69	32	46.4%
	ACCT 332	45	15	33.3%
	ACCT 351	54	29	53.7%
	ACCT 361	30	14	46.7%
	BULE 302	88	27	30.7%
	ACCT 203	439	188	42.8%
	ACCT 301	681	214	31.4%
	ACCT 331	233	102	43.8%
	ACCT 332	180	69	38.3%
	ACCT 351	166	57	34.3%
	ACCT 361	196	64	32.7%
	ACCT 331	233	102	43.8%
	ACCT 461	101	35	34.7%
	FNAN 301	553	194	35.1%
	MIS 430	29	8	27.6%
	ACCT 203	363	102	28.1%
	ACCT 301	682	212	31.1%
	ACCT 311	177	39	22.0%
	ACCT 331	239	74	31.0%
	ACCT 332	190	46	24.2%
	ACCT 361	185	59	31.9%
	FNAN 301	624	231	37.0%

Continued

*No courses meet the selection criteria. The course with the highest DFW % is reported.

**Courses with a High Percentage of D and F Grades and
Withdrawals (continued)**

College	Course	Enrolled	Number of DFWs	Percent of DFWs
	MIS 430	31	10	32.3%
	MSOM 300	300	90	30.0%
VSE	ECE 333	35	17	48.6%
	STAT 250	164	48	29.3%
	IT 106	50	27	54.0%
	IT 108	149	97	65.1%
	IT 223	221	57	25.8%
	IT 314	30	12	40.0%
	CEIE 311	30	11	36.7%
	CS 211	88	26	29.5%
	CS 310	114	32	28.1%
	ECE 220	60	17	28.3%
	ECE 280	34	14	41.2%
	ECE 320	22	8	36.4%
	ECE 333	48	16	33.3%
	ECE 447	42	13	31.0%
	ENGR 117	29	8	27.6%
	STAT 350	63	24	38.1%
	IT 106	93	59	63.4%
	IT 108	109	55	50.5%
	IT 206	65	24	36.9%
	IT 207	126	36	28.6%
	IT 314	33	9	27.3%
	CS 112	180	76	42.2%
	CS 211	120	42	35.0%
	CS 222	28	8	28.6%
	CS 262	105	40	38.1%
	CS 310	98	50	51.0%
	CS 330	58	19	32.8%
	CS 450	39	14	35.9%
	ECE 201	43	14	32.6%
	ECE 280	43	23	53.5%
	ECE 333	56	19	33.9%
	ECE 421	45	16	35.6%
	ECE 448	47	15	31.9%
	ECE 467	15	4	26.7%
	ENGR 183	52	13	25.0%
	STAT 344	128	39	30.5%
	STAT 346	56	16	28.6%
	OR 481	41	12	29.3%
Provost	NEUR 327	41	11	26.8%

Continued

*No courses meet the selection criteria. The course with the highest DFW % is reported.

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