

Report of the Results of Retention Analyses of Fall  
2005, 2006, and 2007 BG Campus First-Year  
Students Concerning Classes Taken and Associated  
Student Success Attributes



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### **First-Year Cohort Retention based on First-Semester Math Class Enrollment**

Retention rates for 2005-2007 first-year on-campus student cohorts were analyzed for those students enrolled in MATH 090, 090X, 095, 095X, 112, 115, 115R, 122, 126, 128, 130, 131, 131H, 134, and 232. Retention was analyzed based on the grade earned in the class, score earned on the math ACT entrance exam, and those students who took advantage of tutoring assistance services. A final comparison was done for students who took a second mathematics course during the spring term.

In looking at *retention by grade in specific mathematics courses*, **Table 1** presents all cohort class groups of 15 or more where students earned below a “C” and retention was below 65%.

Table 1

Cohort	Math Class	Grade Earned	Students Fall 2005	Students Fall 2006	Retention Rate
Fall 2005	MATH 095X	FN	23	14	61%
	MATH 112	D	48	27	56%
	MATH 112	F	18	6	33%
	MATH 115	D	15	8	53%
	MATH 122	F	26	12	46%
Fall 2006	MATH 095X	FN	18	9	50%
	MATH 112	D	84	51	61%
	MATH 112	F	72	37	51%
	MATH 115	F	16	7	44%
	MATH 122	D	52	33	63%
	MATH 122	F	45	26	58%
	MATH 128	D	18	11	61%
Fall 2007	MATH 095	DN	16	8	50%
	MATH 095	FN	31	21	68%
	MATH 095X	F	77	42	55%
	MATH 095X	U	25	9	36%
	MATH 112	D	17	11	65%
	MATH 112	F	21	4	19%
	MATH 115R	F	32	14	44%

Retention in specific mathematics courses based on *scores on the mathematics portion of the ACT exam* was above 65% in all groups of 15 or more students where the earned score was 21 or higher. Groups not meeting this threshold are presented in **Table 2**. Those below the threshold were predominately students who earned a math score of 15 or less on the ACT exam which suggest that perhaps the student would benefit from additional tutoring assistance or in some cases a prerequisite class.

Table 2

Cohort	Math Class	Earned ACT Score	Students Enrolled	Students Retained	Retention Rate
Fall 2005	MATH 112	NA	37	22	59%
Fall 2006	MATH 095X	<=15	17	8	47%
	MATH 112	<=15	19	12	63%
	MATH 112	NA	25	14	56%
Fall 2007	MATH 095X	16-20	68	40	59%
	MATH 112	<=15	18	7	39%

Student success was noted for students who were enrolled in one of the specified mathematics courses during the fall and spring terms. It should be noted that 41% of the students who repeated the same course in the fall and spring terms were unsuccessful (grade below “C”) after repeating the course. The most significant instances were in MATH 112 and MATH 128 where 61% and 44% respectively earned a grade lower than a “C” after repeating the course during the spring term.

Student success was noted for students *who repeated one of the specified courses during the spring term*. Success was determined by receiving a grade of “A”, “B”, “C”, or “S” during the spring term. The success rates, noted in **Table 3** below, show only a moderate rate of success after retaking the math course during the spring term. A second area of concern is that the success rate in repeating the math course has dropped significantly in the last two years.

Table 3

Cohort	Successful Retaking of Course in Spring term
Fall 2005	61%
Fall 2006	54%
Fall 2007	55%

**Table 4** shows the two lowest success rates for each of the cohort years where students successfully completed a fall mathematics course, but received a grade lower than a “C” in the subsequent spring mathematics course.

Table 4

Cohort	Fall Course	Spring Course	Percentage Successful
Fall 2005	Math 122	Math 128	40.9%
	Math 122	Math 130	75.0%
Fall 2006	Math 128	Math 131	62.3%
	Math 095X	Math 112	65.6%
Fall 2007	Math 095X	Math 112	57.7%
	Math 122	Math 126	67.2%

Although the number of students enrolled in the selected mathematics courses has decreased over the three year period, the number of students taking advantage of tutoring services has increased. **Table 5** summarizes the overall usage of tutoring services. Cohort students *who utilized tutoring services for the classes under consideration were retained at a higher rate than those who did not take advantage of tutoring services*. This trend is strongest for students who were unsuccessful in the class. **Table 6** presents the overall results of tutoring.

Table 5

Cohort	Percentage of Students by Grade Receiving Tutoring Services		
	Students Earning an A, B, or C	Students Earning below a C	Total Enrolled in Selected Courses
Fall 2005	17.3%	12.9%	1655
Fall 2006	17.3%	22.0%	1710
Fall 2007	21.1%	23.7%	1440

Table 6

Cohort	Retention Rate for Students Earning an A, B, or C		Retention Rates for Students Earning below a C	
Fall 2005	Tutored	86%	Tutored	63%
	Not Tutored	83%	Not Tutored	54%
Fall 2006	Tutored	87%	Tutored	62%
	Not Tutored	85%	Not Tutored	51%
Fall 2007	Tutored	86%	Tutored	71%
	Not Tutored	85%	Not Tutored	51%

### **First-Year Cohort Retention Based on Selected Class Enrollment**

Retention rates for 2005-2007 first-year on-campus student cohorts were analyzed for those students enrolled in BIOL 204, CHEM 100, CHEM 109, CHEM 110, CHEM 125, ECON 200, ECON 202, ECON 202H, and HIST 205. Retention was analyzed based on the grade earned in the class, the reading score earned on the ACT exam, and for those enrolled in the chemistry courses, the math score from the ACT exam.

In looking at *retention by grade in the selected specified courses*, **Table 7** presents all cohort class groups of 15 or more where students earned below a “C” and retention was below 65%.

Table 7

Cohort	Math Class	Grade Earned	Students Fall 2005	Students Fall 2006	Retention Rate
Fall 2005	CHEM 109*	INC	15	5	33%
Fall 2006	CHEM 109*	D	21	11	52%
	CHEM 110*	F	22	12	55%
Fall 2007	CHEM 109*	C	30	18	60%
	CHEM 110*	F	21	7	33%
* Note that CHEM 109 and CHEM 110 are corequisite courses					

Retention rates were considered in selected specified courses where students were grouped *based on their reading ACT score*. In looking at groups where there are at least 15 students, **Table 8** presents classes with a 65% or lower retention rate. The results do not have groups where students scored below 20 most likely because students were advised into remedial courses to improve their reading skills prior to taking these courses.

Table 8

Cohort	Selected Class	Earned ACT Score	Students Enrolled	Students Retained	Retention Rate
Fall 2005	CHEM 125	21-25	34	22	65%
Fall 2006	CHEM 109*	16-20	34	20	59%
	CHEM 110*	16-20	34	20	59%
	HIST 205	16-20	28	18	64%
Fall 2007	CHEM 109*	21-25	31	18	58%
	CHEM 110*	21-25	31	18	58%
	CHEM 109*	16-20	32	17	53%
	CHEM 110*	16-20	32	17	53%
	HIST 205	21-25	34	19	56%
* Note that CHEM 109 and CHEM 110 are corequisite courses					

In addition to looking at ACT reading scores, *ACT mathematics scores* were considered for those students specifically enrolled in chemistry classes. In considering groups where there are at least 15 students, **Table 9** presents classes with a 65% or lower retention rate.

Table 9

Cohort	Selected Class	Earned ACT Score	Students Enrolled	Students Retained	Retention Rate
Fall 2005					
Fall 2006	CHEM 109*	16-20	55	36	65%
	CHEM 110*	16-20	55	36	65%
Fall 2007	CHEM 109*	16-20	48	28	58%
	CHEM 110*	16-20	48	28	58%
* Note that CHEM 109 and CHEM 110 are corequisite courses					

*Placement and enrollment in ACEN 100 – College Reading/Learning Skills* were considered as factors affecting retention of first-year cohort students along with enrollment in selected classes. Students were grouped by class and by whether they were placed and enrolled, placed and not enrolled, not placed and enrolled, or not placed and not enrolled. **Table 10** provides the retention rates of groups with 15 or more students which have a 65% or lower retention rate for classes taken in the first semester. In all cases where retention was defined as significant, students had not enrolled in ACEN 100. In most cases they were placed, but did not enroll. Chemistry 109/110 also had students who had not been advised into ACEN 100 that perhaps would have benefited by enrolling. No cases with a significant number of students who enrolled in ACEN 100 had less than a 65% retention rate.

Table 10

Cohort	Selected Class	ACEN 100 Placement	Students Enrolled	Students Retained	Retention Rate
Fall 2005	BIOL 204	Placed & Not Enrolled	19	11	58%
	CHEM 125	Placed & Not Enrolled	19	12	63%
	HIST 205	Placed & Not Enrolled	16	9	56%
Fall 2006	CHEM 109*	Placed & Not Enrolled	16	10	63%
	CHEM 110*	Placed & Not Enrolled	17	11	65%
Fall 2007	CHEM 109*	Placed & Not Enrolled	24	15	63%
	CHEM 110*	Placed & Not Enrolled	25	16	64%
	CHEM 109*	Not Placed & Not Enrolled	64	40	63%
	CHEM 110*	Not Placed & Not Enrolled	63	40	63%
	HIST 205	Placed & Not Enrolled	19	9	47%
* Note that CHEM 109 and CHEM 110 are corequisite courses					

**Table 11** provides retention results similar to Table 10, but *for selected classes taken in the second semester*. For these results, ACEN 100 may have been taken either fall or spring semester.

Table 11

Cohort	Selected Class	ACEN 100 Placement	Students Enrolled	Students Retained	Retention Rate
Fall 2005	BIOL 204	Placed & Not Enrolled	17	11	65%
Fall 2006	NONE				
Fall 2007	NONE				
* Note that CHEM 109 and CHEM 110 are corequisite courses					