

## Research Report

# Identifying Potential “Gatekeeper” Courses Impacting Student Success at MJC: Results from a 5-Year Study Fall 2011 to Spring 2016

Scott Kerlin, MJC Office of Research and Planning

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### *Introduction*

In December 2016 a 5-year study of MJC course success rates (Fall 2011 through Spring 2016) was conducted with the objective of identifying high enrollment courses at MJC that have the lowest success rates (typically 60% or less). This study supports work of Gonzalez (2009) and the *Achieving the Dream* initiative in emphasizing the continued building and refinement of a culture of evidence for strategic utilization of institutional data to promote increases in student persistence and success.

Defining “gatekeeper” courses: For the purpose of this study, a “gatekeeper” course is any course with high annual enrollment rates and a high rate of students not passing (i.e. grade of C- or below) (Hayward, C. & Willett, T. (2014)). Such courses tend to be first-year courses that can effectively function as pre-requisites for progression to higher-level (or in the case of Math or English, college-transfer level-courses).

The *Achieving the Dream* initiative asks colleges to identify and transform *gatekeeper* courses—barriers to student progress--to *gateway* courses. Gateway courses should prepare more students (that is, higher success rates) with the knowledge and skills needed to advance toward certificate or degree completion.

### **I. Trends: Gatekeeper Course Identification, Enrollment Trends, Success Rate Calculations, and Variations in Success Rates by Race/ethnicity.**

- (1) Identifying Gatekeeper Courses:** For this 5-year study, the enrollment totals per semester for all MJC courses were calculated, along with course success rates. Method followed was as follows:
  - (a) Courses with the highest enrollment counts per semester (all sections combined) were sorted for identification of courses enrolling at least 200 students. In a typical semester, approximately 50 courses enrolled at least 200 students;
  - (b) These top 50 enrollment courses were further sorted to identify courses enrolling at least 500 students in a given semester;
  - (c) Of the courses enrolling at least 500 students, all courses were sorted by lowest success rate to highest rate, and courses with success rates of less than 60.49% (i.e. rounded to 60% or lower) were identified (see Appendix A of this report, page \_\_)
  - (d) Courses identified for each semester were compared against other semesters, and any courses that appeared on this list at least 5 semesters out of 10 were labeled as “gatekeeper” courses.
  - (e) Criteria for determination of “gatekeeper” courses could be expanded to include a wider range of enrollment counts or a higher cutoff for course success rates (i.e. 61% or even 62% for a given semester), which would ultimately result in a larger list of potential gatekeeper courses.
  - (f) Courses fitting the above definition of gatekeeper courses are summarized in **TABLE 1** on the next page. They include **English 49, History 101, Humanities 101, Math 70 and Math 90, Music 101, and Psychology 110.**

**TABLE 1**\*\*\*\*\*1<sup>st</sup> Census Gatekeeper Course Enrollment\*\*\*\*\*

<u>Course</u>	<u>Title</u>	<u>Fall 2014</u>	<u>Spring 2015</u>	<u>Fall 2015</u>	<u>Spring 2016</u>	<u>2-Yr. Avg</u>
English 49	Basic English Skills	611	585	586	626	<b>602</b>
History 101	U.S. Hist thru 1877	1,062	1,296	1,067	1,175	<b>1,150</b>
Human 101	Intro to Humanities	642	623	703	629	<b>649</b>
Math 70	Elementary Algebra	798	903	897	987	<b>896</b>
Math 90	Intermediate Algebra	525	489	516	614	<b>536</b>
Musg 101	Music Appreciation	1,160	761	981	736	<b>910</b>
Psych 110	Human Sexualities	597	389	755	601	<b>586</b>

\*\*\*\*\*1<sup>st</sup> Census Gatekeeper Course Enrollment\*\*\*\*\*

<u>Course</u>	<u>Fall 2011</u>	<u>Spring 2012</u>	<u>Fall 2012</u>	<u>Spring 2013</u>	<u>Fall 2013</u>	<u>Spring 2014</u>	<u>5-Yr. Avg</u>
English 49	609	523	374	352	453	530	<b>525</b>
History 101	1,052	903	1,035	1,201	1,143	1,289	<b>1,122</b>
Human 101	885	735	717	724	746	722	<b>713</b>
Math 70	902	1,035	897	704	929	798	<b>885</b>
Math 90	910	1,090	929	861	909	525	<b>737</b>
Musg 101	1,356	1,022	1,264	1,010	1,049	831	<b>1,017</b>
Psych 110	760	617	839	765	738	691	<b>675</b>

The largest courses in this study based on most recent 2 years (Fall 2014 through Spring 2016) as well as for all 5 years in this study (Fall 2011 through Spring 2016) were **History 101** (5 year average of more than **1100** enrolled students per semester) and **Music 101** (5-year average of more than **1000** students per semester). **Math 70** also had substantial enrollment per semester, averaging just under **900** students per term.

**(2) Gatekeeper Course Success Rates:** Success rates at the course level are defined as the percentage of students enrolled at first-census who achieve a grade of “A”, “B”, “C”, or “Pass” in the course. For this study, rates for all seven identified Gatekeeper courses were calculated in order to compute a semester-by-semester rate, a 2-year average rate for the period Fall 2014 through Spring 2016, and an overall 5-year rate for the period Fall 2011 through Spring 2016. **TABLE 2** below and on the next page displays both the 2-year and 5-year calculations for these courses.

**TABLE 2**

\*\*\*\*\* Gatekeeper Course Success Rates \*\*\*\*\*

<u>Course</u>	<u>Title</u>	<u>Fall 2014</u>	<u>Spring 2015</u>	<u>Fall 2015</u>	<u>Spring 2016</u>	<u>2-Yr. Avg</u>
English 49	Basic English Skills	46.48%	43.08%	52.56%	54.63%	<b>49.19%</b>
History 101	U.S. Hist thru 1877	55.46%	58.41%	54.55%	58.04%	<b>56.62%</b>
Human 101	Intro to Humanities	57.79%	56.50%	54.77%	54.37%	<b>55.86%</b>
Math 70	Elementary Algebra	57.64%	61.57%	57.53%	54.81%	<b>57.89%</b>
Math 90	Intermediate Algebra	64.76%	56.85%	63.37%	63.03%	<b>62.00%</b>
Musg 101	Music Appreciation	56.81%	59.40%	52.40%	58.97%	<b>56.90%</b>
Psych 110	Human Sexualities	63.99%	69.41%	62.91%	65.72%	<b>65.51%</b>

**TABLE 2** (Continued)

\*\*\*\*\* Gatekeeper Course Success Rates\*\*\*\*\*

<u>Course</u>	<u>Fall 2011</u>	<u>Spring 2012</u>	<u>Fall 2012</u>	<u>Spring 2013</u>	<u>Fall 2013</u>	<u>Spring 2014</u>	<u>5-Yr. Avg</u>
English 49	48.93%	41.49%	54.01%	47.73%	52.29%	50.38%	<b>49.14%</b>
History 101	48.48%	52.38%	53.82%	58.28%	56.08%	61.99%	<b>55.75%</b>
Human 101	54.35%	52.93%	60.39%	63.12%	60.72%	59.56%	<b>57.45%</b>
Math 70	52.22%	53.72%	48.61%	52.70%	54.79%	55.71%	<b>55.23%</b>
Math 90	55.82%	46.51%	49.73%	50.41%	55.01%	55.70%	<b>56.12%</b>
Musg 101	52.51%	53.62%	59.34%	54.36%	60.63%	62.33%	<b>57.04%</b>
Psych 110	49.21%	52.51%	56.26%	52.42%	45.53%	56.58%	<b>57.45%</b>

Of the seven courses reviewed in this study, **English 49** had the lowest 2-year and 5-year average success rates at just above **49%**, meaning that on average fewer than half of enrolled students passed this course. **Math 70** had the second lowest success average at **55.2%** for the past 5 years and **57.9%** for the most recent 2 years.

**(3) Gatekeeper Course Success Rates by Race/Ethnicity:** Success rate differences were measured for **African-American, Asian, Hispanic, and White** students across seven Gatekeeper courses in this study. For each course over the study, gaps in success rates by ethnicity were calculated at the 2 year and at the 5 year levels. Rates for all courses during this 2-year period are below; 5-year trend data continues on the next two pages.

**TABLE 3**

\*\*\*\*\*Course Success Rates\*\*\*\*\*

<u>Course</u>	<u>Title</u>	<u>Fall 2014</u>	<u>Spring 2015</u>	<u>Fall 2015</u>	<u>Spring 2016</u>	<u>2-Yr. Avg</u>
<b>English 49</b>	<b>All Students</b>	<b>46.48%</b>	<b>43.08%</b>	<b>52.56%</b>	<b>54.63%</b>	<b>49.19%</b>
	African-Americans	30.43%	14.29%	45.00%	45.45%	33.79%
	Asians	47.73%	44.44%	51.11%	51.11%	48.60%
	Hispanics	45.86%	44.00%	51.70%	59.23%	50.20%
	Whites	49.12%	47.89%	54.61%	50.76%	50.60%
	<b>GAP (High to Low)</b>					<b>16.81%</b>
<b>History 101</b>	<b>All Students</b>	<b>55.46%</b>	<b>58.41%</b>	<b>54.55%</b>	<b>58.04%</b>	<b>56.62%</b>
	African-Americans	24.14%	37.50%	26.32%	42.86%	32.71%
	Asians	56.86%	65.63%	59.42%	66.67%	62.15%
	Hispanics	51.29%	56.23%	48.98%	53.33%	52.46%
	Whites	62.16%	60.82%	62.28%	63.13%	62.10%
	<b>GAP (High to Low)</b>					<b>29.44%</b>
<b>Human 101</b>	<b>All Students</b>	<b>57.79%</b>	<b>56.50%</b>	<b>54.77%</b>	<b>54.37%</b>	<b>55.86%</b>
	African-Americans	31.58%	29.41%	35.48%	36.84%	42.19%
	Asians	46.15%	69.23%	78.95%	65.71%	61.58%
	Hispanics	52.54%	54.04%	51.97%	49.43%	66.05%
	Whites	64.44%	60.08%	55.44%	57.09%	66.11%
	<b>GAP (High to Low)</b>					<b>23.92%</b>



**TABLE 3** (Continued)

\*\*\*\*\*Course Success Rates\*\*\*\*\*

<u>Course</u>	<u>Ethn</u>	<u>Fall 2011</u>	<u>Spring 2012</u>	<u>Fall 2012</u>	<u>Spring 2013</u>	<u>Fall 2013</u>	<u>Spring 2014</u>	<u>5-Yr. Avg</u>
<b>Hum 101</b>	<b>All</b>	<b>54.35%</b>	<b>52.93%</b>	<b>60.39%</b>	<b>66.21%</b>	<b>60.72%</b>	<b>59.56%</b>	<b>57.76%</b>
	AfAm	43.75%	27.78%	19.23%	18.18%	30.00%	43.48%	31.57%
	Asian	68.57%	48.65%	66.67%	78.57%	46.67%	67.86%	63.70%
	Hispan	51.91%	52.51%	59.72%	52.34%	62.84%	56.34%	54.36%
	White	55.97%	72.11%	64.91%	63.09%	61.40%	61.64%	61.60%
<b>GAP (High-Low)</b>								<b>32.13%</b>
<b>Math 70</b>	<b>All</b>	<b>52.22%</b>	<b>53.72%</b>	<b>48.61%</b>	<b>52.70%</b>	<b>54.79%</b>	<b>55.71%</b>	<b>55.23%</b>
	AfAm	29.17%	42.31%	21.43%	39.13%	40.00%	50.00%	39.34%
	Asian	58.33%	62.50%	45.00%	52.63%	52.50%	55.00%	56.59%
	Hispan	52.19%	51.84%	48.94%	54.52%	53.04%	57.11%	54.24%
	White	55.49%	57.78%	49.86%	50.92%	57.76%	54.91%	56.96%
<b>GAP (High-Low)</b>								<b>17.62%</b>
<b>Math 90</b>	<b>All</b>	<b>55.82%</b>	<b>46.51%</b>	<b>49.73%</b>	<b>50.41%</b>	<b>55.01%</b>	<b>55.70%</b>	<b>56.12%</b>
	AfAm	60.00%	38.10%	31.82%	45.45%	21.43%	66.67%	47.30%
	Asian	57.14%	47.46%	58.93%	52.08%	64.58%	48.72%	58.28%
	Hispan	56.20%	42.25%	49.46%	50.15%	52.26%	53.39%	54.57%
	White	55.24%	50.34%	50.54%	49.86%	57.30%	57.55%	57.13%
<b>GAP (High-Low)</b>								<b>10.98%</b>
<b>Musg 101</b>	<b>All</b>	<b>52.51%</b>	<b>53.62%</b>	<b>59.34%</b>	<b>54.36%</b>	<b>60.63%</b>	<b>62.33%</b>	<b>57.04%</b>
	AfAm	26.15%	23.68%	29.79%	31.25%	35.71%	44.44%	35.27%
	Asian	60.76%	71.01%	60.34%	62.50%	67.24%	75.00%	65.87%
	Hispan	50.09%	48.01%	53.94%	53.85%	55.56%	57.21%	49.42%
	White	56.85%	58.93%	67.52%	58.29%	69.42%	54.91%	61.52%
<b>GAP (High-Low)</b>								<b>30.60%</b>
<b>Psych 110</b>	<b>All</b>	<b>49.21%</b>	<b>52.51%</b>	<b>56.26%</b>	<b>52.42%</b>	<b>45.53%</b>	<b>56.58%</b>	<b>57.45%</b>
	AfAm	22.58%	25.00%	42.42%	45.00%	17.14%	31.03%	38.79%
	Asian	53.57%	41.67%	52.50%	45.16%	52.00%	72.72%	61.40%
	Hispan	46.04%	49.09%	50.84%	50.66%	40.32%	55.41%	53.59%
	White	51.72%	60.78%	67.87%	56.97%	55.42%	62.75%	64.75%
<b>GAP (High-Low)</b>								<b>25.96%</b>

Of the seven courses reviewed in this study, **History 101** had the widest gaps by ethnicity for 2-year and 5-year average success rates, followed by **Humanities 101**. **History 101** showed a 5-year gap between highest (**White** students, at **60.8%**) and lowest (**African-American** students, at **27.5%**), at **33.3%** gap overall, and a **29.5%** gap over the period Fall 2014 to Spring 2016 (Asian students: **62.2%** success rate vs. African-Americans at **32.7%**). **Humanities 101** showed a 5-year gap between highest (**Asian** students, at **63.7%**) and lowest (**African-American** students, at **31.6%**), at **32.1%** gap overall, and a **23.9%** gap over the period Fall 2014 to Spring 2016 (**White** students: **66.1%** success rate vs. African-Americans at **42.2%**).

## Appendix A: Gatekeeper Course Analysis Fall 2011-Spring 2016

Term	Course	Title	Sections	Census Enr	Success_Rate	Retention_Rate	Gatekeeper?
2016MSP	MHUMAN-101	Intro to Humanities	13	629	54.37	70.91	yes
2016MSP	MENGL-49	Basic English Skills	22	626	54.63	84.35	yes
2016MSP	MMATH-70	Elementary Algebra	25	987	54.81	78.93	yes
2016MSP	MHIST-101	Us Hist Thru 1877	18	1,175	58.04	82.13	yes
2016MSP	MMUSG-101	Music Appreciation	15	736	58.97	79.89	yes
2016MSP	MENGL-101	Composition and Reading	54	1,504	60.17	77.53	

Term	Course	Title	Sections	Census Enr	Success_Rate	Retention_Rate	Gatekeeper?
2015MFA	MCHEM-101	General Chemistry 1	8	233	42.92	66.95	
2015MFA	MMUSG-101	Music Appreciation	17	981	52.40	83.08	yes
2015MFA	MENGL-49	Basic English Skills	19	586	52.56	89.25	yes
2015MFA	MHIST-101	Us Hist Thru 1877	16	1,067	54.55	79.94	yes
2015MFA	MHUMAN-101	Intro to Humanities	11	703	54.77	76.39	yes
2015MFA	MSOCIO-101	Intro to Sociology	20	1,158	57.17	85.75	
2015MFA	MMATH-70	Elementary Algebra	23	897	57.53	84.50	yes
2015MFA	MHE-110	Healthful Living	35	1,780	60.34	83.54	

Term	Course	Title	Sections	Census Enr	Success_Rate	Retention_Rate	Gatekeeper?
2015MSP	MENGL-49	Basic English Skills	21	585	43.08	83.08	yes
2015MSP	MHUMAN-101	Intro to Humanities	10	623	56.50	74.32	yes
2015MSP	MART-160	Appreciation of Art	14	708	56.78	80.23	
2015MSP	MHIST-101	Us Hist Thru 1877	22	1,296	58.41	78.70	yes
2015MSP	MMUSG-101	Music Appreciation	12	761	59.40	84.89	yes

Term	Course	Title	Sections	Census Enr	Success_Rate	Retention_Rate	Gatekeeper?
2014MFA	MCHEM-101	General Chemistry 1	7	205	44.88	68.78	
2014MFA	MENGL-49	Basic English Skills	21	611	46.48	83.47	yes
2014MFA	MMATH-89	Interm. Algebra Essentials	14	535	55.14	80.56	
2014MFA	MHIST-101	Us Hist Thru 1877	16	1,062	55.46	79.94	yes
2014MFA	MMUSG-101	Music Appreciation	18	1,160	56.81	85.86	yes
2014MFA	MMATH-70	Elementary Algebra	19	798	57.64	83.08	yes
2014MFA	MHUMAN-101	Intro to Humanities	12	642	57.79	74.14	yes

Term	Course	Title	Sections	Census Enr	Success_Rate	Retention_Rate	Gatekeeper?
2014MSP	MENGL-49	Basic English Skills	19	530	50.38	82.08	yes
2014MSP	MMATH-90	Intermediate Algebra	21	903	55.70	78.41	yes
2014MSP	MMATH-70	Elementary Algebra	22	919	55.71	80.63	yes
2014MSP	MPSYCH-110	Human Sexualities	10	691	56.58	87.70	yes
2014MSP	MHUMAN-101	Intro to Humanities	13	722	59.56	77.56	yes

Term	Course	Title	Sections	Census Enrollment	Success_Rate	Retention_Rate	Gatekeeper?
2013MFA	MPHILO-101	Philosophy	7	534	42.51	72.47	
2013MFA	MPSYCH-110	Human Sexualities	9	738	45.53	86.45	yes
2013MFA	MMATH-70	Elementary Algebra	21	929	54.79	84.18	yes
2013MFA	MMATH-90	Intermediate Algebra	21	909	55.01	79.21	yes
2013MFA	MHIST-101	Us Hist Thru 1877	15	1,143	56.08	81.54	yes
2013MFA	MPSYCH-101	General Psychology	16	1,049	57.67	85.99	

Term	Course	Title	Sections	Census Enrollment	Success_Rate	Retention_Rate	Gatekeeper?
2013MSP	MPHILO-101	Philosophy	7	508	43.11	75.79	
2013MSP	MSOCIO-101	Intro to Sociology	8	503	48.51	75.15	
2013MSP	MMATH-90	Intermediate Algebra	20	861	50.41	75.38	yes
2013MSP	MPSYCH-110	Human Sexualities	10	765	52.42	87.71	yes
2013MSP	MMATH-70	Elementary Algebra	16	704	52.70	80.82	yes
2013MSP	MMUSG-101	Music Appreciation	12	1,010	54.36	83.07	yes
2013MSP	MHIST-101	Us Hist Thru 1877	17	1,201	58.28	78.60	yes
2013MSP	MPSYCH-101	General Psychology	20	1,180	60.08	80.76	

Term	Course	Title	Sections	Census Enrollment	Success_Rate	Retention_Rate	Gatekeeper?
2012MFA	MPHILO-101	Philosophy	9	548	47.45	73.72	
2012MFA	MMATH-70	Elementary Algebra	20	897	48.61	78.15	yes
2012MFA	MMATH-90	Intermediate Algebra	22	929	49.73	75.67	
2012MFA	MHIST-101	Us Hist Thru 1877	11	1,035	53.82	79.23	yes
2012MFA	MCMPSC-201	General Computer Literacy	15	602	56.15	85.38	
2012MFA	MPSYCH-110	Human Sexualities	10	839	56.26	87.25	yes
2012MFA	MMUSG-101	Music Appreciation	14	1,264	59.34	88.69	yes
2012MFA	MENGL-50	Basic Comp & Read	20	650	60.31	82.15	
2012MFA	MHUMAN-101	Intro to Humanities	13	717	60.39	81.17	yes

Term	Course	Title	Sections	Census Enrollment	Success_Rate	Retention_Rate	Gatekeeper?
2012MSP	MENGL-49	Basic English Skills	18	523	41.49	71.89	yes
2012MSP	MMATH-90	Intermediate Algebra	25	1,090	46.51	71.19	yes
2012MSP	MHIST-101	Us Hist Thru 1877	12	903	52.38	77.63	yes
2012MSP	MPSYCH-110	Human Sexualities	10	617	52.51	87.20	yes
2012MSP	MHUMAN-101	Intro to Humanities	15	735	52.93	72.38	yes
2012MSP	MMUSG-101	Music Appreciation	14	1,022	53.62	86.11	yes
2012MSP	MMATH-70	Elementary Algebra	24	1,035	53.72	78.26	yes
2012MSP	MCMPSC-201	General Computer Literacy	17	667	53.97	81.71	
2012MSP	MHIST-102	Hist Us Post Civil War	11	990	56.06	82.22	
2012MSP	MENGL-101	Composition and Reading	58	1,651	57.84	75.17	
2012MSP	MPSYCH-101	General Psychology	20	1,298	58.40	82.74	
2012MSP	MPEC-195	Weight Training	23	831	58.97	90.01	

Term	Course	Title	Sections	Census Enrollment	Success_Rate	Retention_Rate	Gatekeeper?
2011MFA	MPHILO-101	Philosophy	7	504	41.07	72.22	
2011MFA	MHIST-101	Us Hist Thru 1877	11	1,052	48.48	78.71	yes
2011MFA	MENGL-49	Basic English Skills	21	609	48.93	82.10	yes
2011MFA	MPSYCH-110	Human Sexualities	10	760	49.21	84.61	yes
2011MFA	MSOCIO-101	Intro to Sociology	8	502	50.80	88.05	
2011MFA	MMATH-70	Elementary Algebra	20	902	52.22	77.72	yes
2011MFA	MMUSG-101	Music Appreciation	16	1,356	52.51	86.58	yes
2011MFA	MHUMAN-101	Intro to Humanities	14	885	54.35	71.64	yes
2011MFA	MENGL-101	Composition and Reading	58	1,701	55.56	76.01	
2011MFA	MCMPSC-201	General Computer Literacy	16	628	55.57	84.71	
2011MFA	MMATH-90	Intermediate Algebra	20	910	55.82	75.27	yes
2011MFA	MENGL-103	Adv Comp & Critical Thinkng	20	508	56.10	75.00	
2011MFA	MPSYCH-101	General Psychology	20	1,311	57.21	84.52	
2011MFA	MPEC-195	Weight Training	19	831	58.72	89.29	
2011MFA	MHIST-102	Hist Us Post Civil War	11	987	60.08	84.50	

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