

Institution Set Standards 2013-14

Office of Institutional Effectiveness
Barstow Community College

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The Mission of Barstow Community College

Barstow Community College is an accredited, open access institution of higher learning committed to providing our students, community, and military population with the educational tools to achieve personal goals and professional growth.

To accomplish this, the college offers traditional and distance education courses, programs, and pathways designed to enhance student success, leadership development, and career opportunities, enabling all in the community to thrive in a changing global society.

Foreword to the 2013-14 Edition

I. Trends

We are using the same methodology in this edition of Institution Set Standards as the first edition. One of the uses of this tool is through the minimum standards set, we can see the performance of the institution through the changes of this minimum standard as it is re-calculated using the five most recent years of data.

The minimum standards of the five metrics in the last two years are plotted along with their respective data. All metrics are seeing an increase from last year to this year, signifying improvements in the most recent five-year period.

II. Dialogues

Results from the 2012-13 edition of Institution Set Standards have generated dialogue, especially in the area of program awards. There were discussions on why the number of Degrees awarded dropped below the minimum standard, and how we are going to remedy this situation. There were also discussions about the very low number of Certificates earned last year, even though this metric passed the standard. Concerns were raised and initiatives developed to address a large number of students who do not complete requirements to obtain a certificate. CTE counselors and faculty are working together to implement these initiatives. Examples are increased attention to certificate completion during educational planning and counselor presence in CTE areas.

In addition, BCC believes that success and retention rates, though seemingly satisfactory, do not adequately reflect student success. It has become obvious that although Institution Set Standards are important tools to gauge institutional quality and performance, they are not sufficient to address all student success and institutional effectiveness issues. Other factors that must be considered are completion and persistence for the student population as a whole, as well as disaggregated demographically to address equity issues.

III. Actions

Efforts have been expensed in the area of Student Success and Equity, Enrollment Management, and Program Review to identify critical issues, to achieve optimal operational efficiency, and to consistently evaluate program quality. Together, these programs improve our performance and drive our institution forward. Our students reap the benefit of this sustained improvement and we will see positive results in our Institution Standards in the near future.

Background

The U.S. Department of Education mandates that institutions of higher education have in place Institution Set Standards. According to Title 34 , Code of Federal Regulations:

34 CFR § 602.16(a)(1)(i). Accreditation Standards must address success with respect to student achievement in relation to the institution's mission

The Accrediting Commission for Community and Junior Colleges reviews these standards at each institution as part of its accrediting process, as well as information to be reported in the annual report to ACCJC.

The ACCJC Annual Report requires reporting of these standards in five areas:

- 1. Institution Set Standard for Student Course Completion Rate** (Item 14b) – this would be calculated by looking at the completion rate in every section of every course offered.
- 2. Institution Set Standard for Student Retention Percentage** (Item 15b) – this would be calculated by looking at the retention rate in every section of every course.
- 3. Institution Set Standard for Student Degree Completion Rate/Count** (Item 16b) – the number of degrees awarded and the annual student headcounts are compiled, and both of which are used to determine the standard.
- 4. Institution Set Standard for Student Transfer Rate/Count** (Item 17b) – the number of students transferred and the annual student headcounts are compiled, and both of which are used to determine the standard.
- 5. Institution Set Standard for Student Certificate Completion Rate/Count** (Item 18b) – the number of certificates awarded and the annual student headcounts are compiled, and both of which are used to determine the standard.

Process

While the mandate has been handed down to the institutions, ACCJC has not provided a definitive definition on how to establish these standards. There also seem to be no commonly agreed definition among Colleges. A survey of Colleges in the area yielded a wide variety of ideas and methodology, which prompted us to devise a methodology that is backed by sound principles, easy to interpret, and usable in the long run.

In general, there are two main schools of thought among Colleges in establishing their own Institution Set Standards:

1. **Along the Center of the Data** (Rio Hondo College, Chabot College, College of the Canyons) – the institution uses either the mean or median of their recent data to establish a central tendency. One of the institution even set their standard above their center, because of their high expectation of student performance. The main problem with this method is that the standard would be met approximately only half of the time.
2. **Minimum Acceptable Standard** (Foothill College, Riverside Community College District) – the institution uses the mean and standard error to calculate a margin for minimum acceptable performance. By using recent data, this minimum standard would reflect students' performance and also serve as an alert to irregular data activity. The 95% confidence level is commonly used in statistical analysis and can be easily calculated by going two standard errors below the five-year mean. This standard would be met up to 97.5% of the time if the upper limits are disregarded, with irregularities happen only one in 40 instances.

The Minimum Acceptable Standard model was adopted for the Institution Set Standards at Barstow Community College.

Development

The Institution Set Standard at Barstow Community College began in Spring 2014. During summer, we solicited input and researched methodology from nearby Community Colleges in order to develop a method that is not only theoretically sound but also consistent with our peers.

As Fall Semester approached, a draft was created and discussed with the VP of Academic Affairs. A preliminary discussion was held with College faculty members during the Fall Faculty In-Service training where feedback was solicited. The draft was then presented to Institution Effectiveness Committee and reviewed by committee members which represented a cross-section of the College staff.

The near-final draft was reviewed again by the College President and was brought to the President's Cabinet for discussion. It was also discussed at the Academic Senate and the President's Shared Governance Council, and was distributed to everyone at the College. All comments and feedback from every discussion were considered and incorporated into the draft where appropriate. The final draft of the Institution Set Standard is scheduled to be presented to the Board of Trustees for approval in November 2014.

Total Quality Management

The idea of adopting a **Minimum Acceptable Standard** came from a concept in manufacturing called Total Quality Management, originated in the early 1900's but became popular in the 1980's, as manufacturers tried to produce superior quality products at relatively competitive prices. This concept was later adopted by the U.S. Navy to improve its operational effectiveness by using statistical process control assessments. The U.S. Navy branded this effort "Total Quality Management" in 1985, with "Total Quality" implying a total effort from top to bottom of the organizational chain. (Source: Houston, Archester; Dockstader, Steven L. (1997), Total Quality Leadership: A Primer, Washington, D.C.: United States Navy, pp. 10–11)

Minimum Acceptable Standard is a quality control measure based on the concept of Control Charts in statistical process control where controlled variations are accounted for, but control limits designate the threshold at which the process output is considered statistically 'unlikely' and warrants an alert and an investigation before the process goes further out of control. The Minimum Acceptable Standard corresponds to the lower control limit of this measure. (Source: Shewhart, W. A. (1939). Statistical Method from the Viewpoint of Quality Control. ISBN 0-486-65232-7.)

For institutions of higher education, this standard is applied as an institutional quality measure to improve operational efficiency and effectiveness, and as an institutional self-evaluation tool for student achievement and institutional performance supported by current data. (Source: "Accreditation and Measures of Quality" by Barbara Beno, presented at California Association of Institutional Researchers (CAIR) annual conference, November 21, 2013.)

Principles

- 1. Iterative Standards:** Five-year historical data is used to establish a central performance level for the College. The standards are re-calculated each year using the five most recent year to maintain relevance. The changing standards is also a reflection of students' performance at the institution.
- 2. Revision of Methodology:** Measurements of central tendency are established in each category, and the lower limits of their 95% confidence intervals are used to established the minimum acceptable standards. This methodology will be reviewed annually to ensure that the standards set for the College remain appropriate and relevant.
- 3. Institutional Quality:** The principle of Iterative Standards maintains the quality of the institution by monitoring its performance on an annual basis. It provides a guide to institutional performance as to whether the performance has become unacceptable, and it also adjusts itself to raise the standards when the institution is performing well. The minimum standards determined are a reflection of the institution's performance and can be used as a measure of institutional quality.
- 4. Performance Evaluation:** The Institution Set Standards are entirely based on student outcomes and the current methodology cannot be manipulated other than by students' performances. A 95% confidence interval implies that there is only a one out of 20 probability that we would get an inconsistent result due to potentially a real problem. With the upper limit of the confidence levels removed, the confidence level increases to 97.5% This is a reasonable minimum standard.
- 5. Student Achievement:** While Institution Set Standards is determined by student outcome and performance, the set standards only influences student outcomes indirectly. As the Iterative Standards are adjusted annually, other goals could be set by programs, discipline or courses to assist students' performance and improve on their outcomes.
- 6. Accreditation Mandate:** The Accrediting Commission for Community and Junior Colleges (ACCJC) stated that a Standard is the level of performance to meet quality and effectiveness expectations, and that institutions must set standards of satisfactory performance. ACCJC will assess appropriateness and reasonableness of standards set and cite this information as evidence in describing its evaluation of how well the institution accomplishing its mission.

Methodology

Institution Set Standards using 95% Confidence Intervals:

The Institution Set Standards are established by calculating the 95% confidence intervals for the respective rates, or proportions, using the five-year average data as the denominator. The lower limits of the confidence intervals are used as the minimum acceptable standards in each area.

The mean and standard deviation (SD) for the Five-Year student data were calculated using the formula below:

$$\text{Mean } \bar{X} = \frac{\sum_i X_i}{n}$$

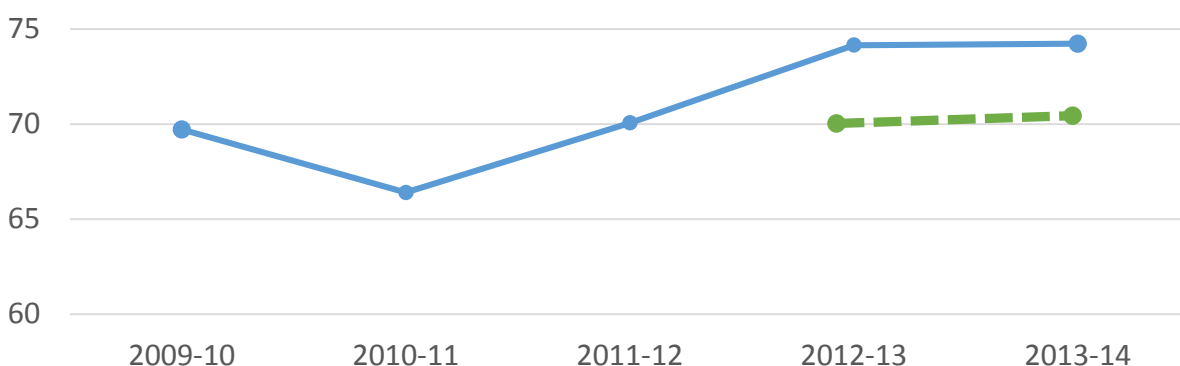
$$\text{Standard Error or SE} = \sqrt{\frac{p(1-p)}{n}}$$

where p is the five-year mean proportion, and n is the sample size, or five-year mean headcount.

The 95% confidence intervals are calculated using an approximation of

$$\text{Lower Limit of 95\% CI} = p - 2SE.$$

Institution Set Standard for Student Course Completion Rate



Course Completion	Sections	Rate	SD	Rate(%)	-2.0 SE(%)
Five-Year Average	2,672	0.70809	0.00388546	70.8086	70.0315
2009-10	563	0.69725	0.00816281	69.7253	68.0927
2010-11	558	0.66403	0.00888948	66.4032	64.6253
2011-12	529	0.70062	0.008912	70.0618	68.2794
2012-13	520	0.74155	0.00863053	74.1553	72.4292
2013-14	502	0.74241	0.00833262	74.2406	72.5741

Institution Set Standards for Student Course Completion Rate:

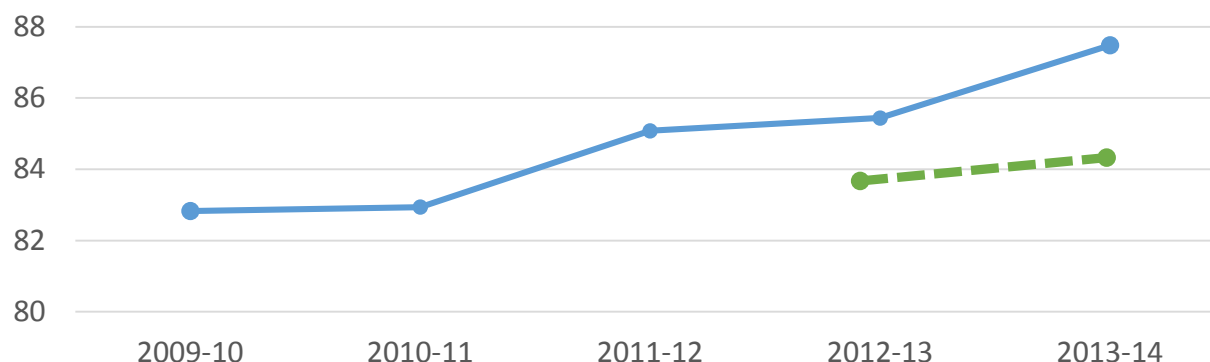
The Course Completion Rates for every section of every course from the most recent five academic years were calculated. The Completion Rates were grouped by academic years, as well as in one combined group for the calculation of Five-Year Average. The means and standard deviations (SD) were calculated from the section data, and the standard errors were calculated using the formula below:

$$\text{Standard Error or SE} = \text{SD}/\sqrt{n}$$

where n is the sample size, or total number of sections.

With the standard set at two Standard Errors below the mean, we will capture the top 97.5% of student course completion. The Institution Set Standard for Student Course Completion calculated using the average of the most recent five academic years set two SE below the mean is 70.0%. In the 2013-14 academic year, the Student Course Completion Rate was 74.2%, and the standard was met.

Institution Set Standard for Student Retention Percentage



Course Completion	Sections	Rate	SD	Rate(%)	-2.0 SE(%)
Five-Year Average	2,672	0.8468	0.00283098	84.6796	84.1134
2009-10	586	0.84069	0.006178695	82.8283	81.6157
2010-11	563	0.82828	0.00606327	82.9379	81.6167
2011-12	558	0.82938	0.006606056	85.0776	83.8072
2012-13	529	0.85078	0.006352103	85.4401	84.1993
2013-14	520	0.8544	0.0062042	87.4846	86.2522

Institution Set Standards for Student Retention Percentage:

The Course Retention Percentages for every section of every course from the most recent five academic years were calculated. The Retention Percentages were grouped by academic years, as well as in one combined group for the calculation of Five-Year Average. The means and standard deviations (SD) were calculated from the section data, and the standard errors were calculated using the formula below:

$$\text{Standard Error or SE} = \text{SD}/\sqrt{n}$$

where n is the sample size, or total number of sections.

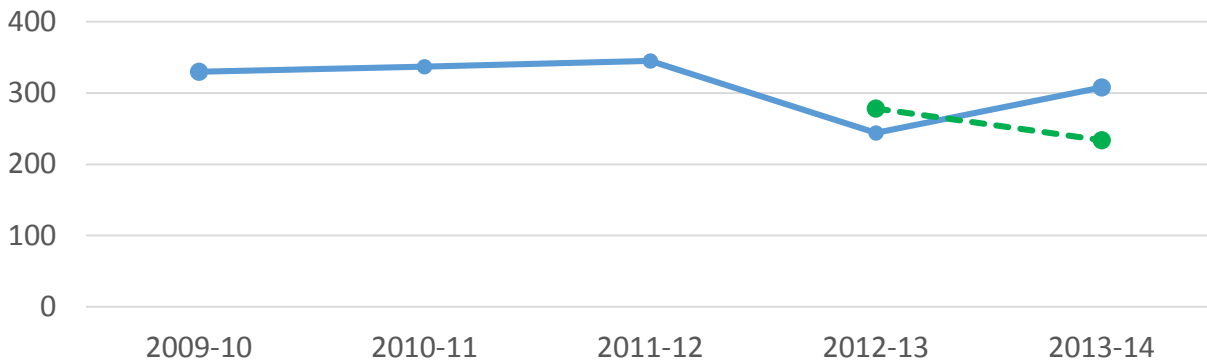
With the standard set at two Standard Errors below the mean, we will capture the top 97.5% of student retention. The Institution Set Standard for Student Retention Percentage calculated using the average of the most recent five academic years set two SE below the mean is 84.1%. In the 2013-14 academic year, the Student Retention Percentage was 87.5%, and the standard was met.

Overview - Student Degree & Certificate Completion

Degrees & Certificates Completed	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014	
Associate in Arts for Transfer (A.A.-T) Degree								3		6
Associate of Science (A.S.) degree		176		177		171		103		139
Associate of Arts (A.A.) degree		154		160		174		138		163
Total Degrees		330		337		345		244		308
Certificate requiring 30 to < 60 semester units				7						
Certificate requiring 18 to < 30 semester units		18		14		13		10		14
Certificate requiring 6 to < 18 semester units				6						
Total Certificates		18		27		13		10		14
Total	7,744	348	5,253	364	5,020	358	5,152	254	4,690	322

Degrees & Certificates Completed	Five-Year Average		Institution Set Standards	
Associate in Arts for Transfer (A.A.-T) Degree		4.5		
Associate of Science (A.S.) degree		153.2		
Associate of Arts (A.A.) degree		157.8		
Total Degrees		312.8	4.99%	233.80
Certificate requiring 30 to < 60 semester units		7		
Certificate requiring 18 to < 30 semester units		12.75		
Certificate requiring 6 to < 18 semester units		6		
Total Certificates		16.4	0.14%	6.76
Total		5571.8	329.2	5.10%

Institution Set Standard for Student Degree Completion Rate/Count

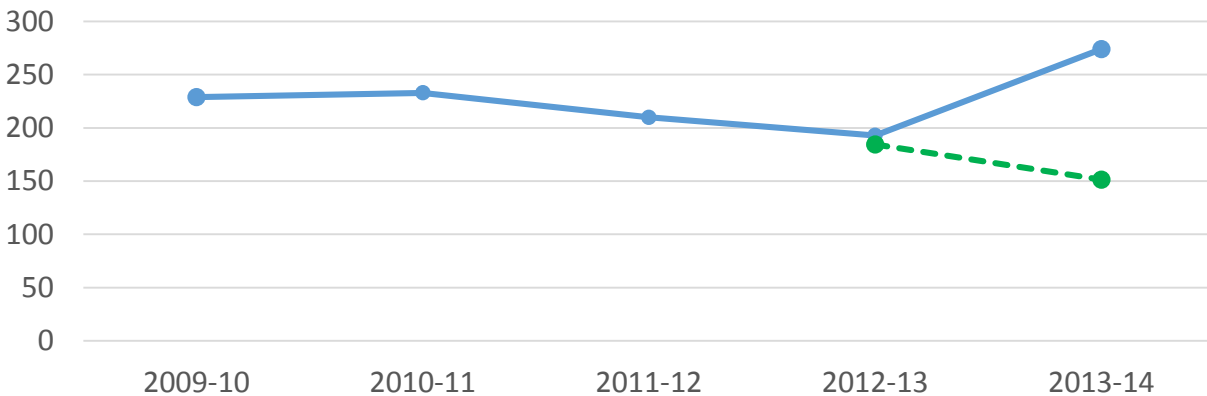


Degrees Conferred	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Associate in Arts for Transfer (A.A.-T) Degree				3	6
Associate of Science (A.S.) degree	176	177	171	103	139
Associate of Arts (A.A.) degree	154	160	174	138	163
Total Degrees	330	337	345	244	308
Degrees Conferred	Five-Year Average			Institution Set Standard	
Associate in Arts for Transfer (A.A.-T) Degree			4.5		
Associate of Science (A.S.) degree			153.2		
Associate of Arts (A.A.) degree			157.8		
Total Degrees			312.8	4.99%	233.80

Institution Set Standards for Student Degree Completion Rate/Count:

With the standard set at two Standard Errors below the mean over the last five years, we will capture the top 97.5% of sampling distributions of student degree completion. The Institution Set Standard for Student Degree Completion calculated using the average of the most recent five academic years set two SE below the mean is 4.99% of the five-year average student headcount. In the 2013-14 academic year, the standard for Student Degree Completion Rate when applied to the five-year average headcount was 233.80, and the standard was met with 308 degrees conferred.

Institution Set Standard for Student Transfer Rate/Count

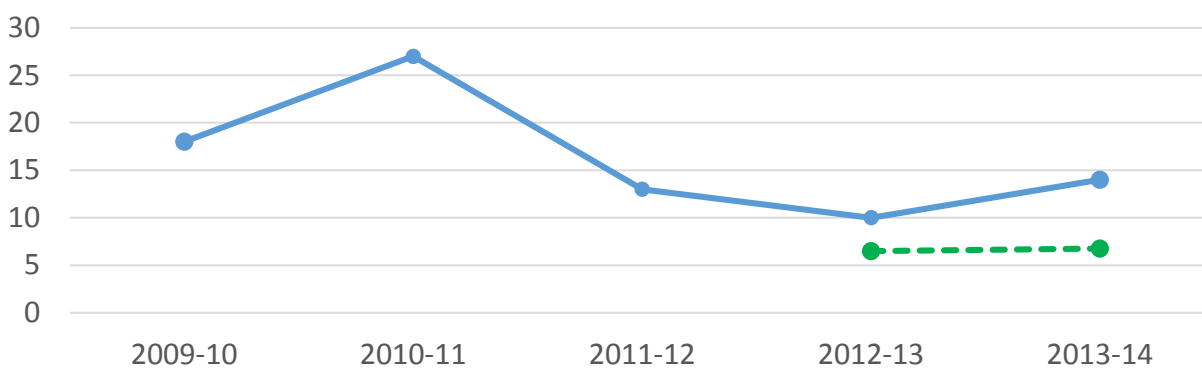


Transfer Volume	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014	
	HC	Xfers	HC	Xfers	HC	Xfers	HC	Xfers	HC	Xfers
	7744	229	5253	233	5020	210	5152	193	4690	274
Transfer Volume	Five-Year Average				Institution Set Standard (Five-Year Std) (for 2012-13)					
	Headcount		Transfers							
	5571.8		216.25		3.23%		151.49			

Institution Set Standards for Student Transfer Rate/Count :

With the standard set at two Standard Errors below the mean, we will capture the top 97.5% of sampling distribution of student transfers. The Institution Set Standard for Student Transfer Rate calculated using the average of the most recent five academic years set two SE below the mean is 3.23% of the annual headcount. When this five-year standard is applied to the 2013-14 academic year, the minimum expected transfer is 151.49, and the standard was met with 274 students actually transferred..

Institution Set Standard for Student Certificate Completion Rate/Count



Certificates Awarded	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Certificate requiring 30 to < 60 semester units			7		
Certificate requiring 18 to < 30 semester units	18	14	13	10	14
Certificate requiring 6 to < 18 semester units			6		
Total Certificates	18	27	13	10	14

Certificates Awarded	Five-Year Average	Institution Set Standard
Certificate requiring 30 to < 60 semester units	7	
Certificate requiring 18 to < 30 semester units	12.75	
Certificate requiring 6 to < 18 semester units	6	
Total Certificates	16.4	0.14% 6.76

Institution Set Standards for Student Certificate Completion Rate/Count:

With the standard set at two Standard Errors below the mean over the last five years, we will capture the top 97.5% of sampling distributions of student certificate completion. The Institution Set Standard for Student Certificate Completion calculated using the average of the most recent five academic years set two SE below the mean is 0.14% of the five-year average student headcount. In the 2013-14 academic year, the standard for the Student Certificate Completion Rate when applied to the five-year average headcount was 6.76, and the standard was met, with 14 certificates completed.

Summary

	Institution Set Standard	Performance 2013-14	Result
Student Course Completion Rate (Item 14b)	70.0315%	74.2406%	Standard Met
Student Retention Percentage (Item 15b)	84.1134%	87.4846%	Standard Met
Student Degree Completion Rate/Count (Item 16b)	233.80	308	Standard Met
Student Transfer Rate/Count (Item 17b)	151.49	274	Standard Met
*Student Certificate Completion Rate/Count (Item 18b)	6.76	14	Standard Met

*Concerns were raised and initiatives developed to address a large number of students who do not complete requirements to obtain a certificate. CTE counselors and faculty are working together to implement these initiatives. Examples are increased attention to certificate completion during educational planning and counselor presence in CTE areas.