

INSTITUTIONAL PROGRAM REVIEW 2010-11
Program Efficacy Phase, Spring, 2011

Purpose of Institutional Program Review

Welcome to the Program Efficacy phase of the San Bernardino Valley College Program Review process. Program Review is a systematic process for evaluating programs and services annually. The major goal of the Program Review Committee is to evaluate the effectiveness of programs, and to make informed decisions about budget and other campus priorities.

The Institutional Program Review Committee is authorized by the Academic Senate to develop and monitor the college Program Review process, receive unit plans, utilize assessments as needed to evaluate programs, recommend program status to the college president, identify the need for faculty and instructional equipment, and interface with other college committees to ensure institutional priorities are met.

The purpose of Program Review is to:

- Provide a full examination of how effectively programs and services are meeting departmental, divisional, and institutional goals
- Aid in short-range planning and decision-making
- Improve performance, services, and programs
- Contribute to long-range planning
- Contribute information and recommendations to other college processes, as appropriate
- Serve as the campus' conduit for decision-making by forwarding information to or requesting information from appropriate committees

Our Program Review process is two-fold. It includes an annual campus-wide needs assessment in the fall, and an in-depth review of each program every three years that we call the Program Efficacy phase. Instructional programs are evaluated the year after content review, and every three years thereafter, and other programs are placed on a three-year cycle by the appropriate Vice President.

An efficacy team of two disinterested committee members will meeting with you to carefully review and discuss your document. You will receive detailed feedback regarding the degree to which your program is perceived to meet institutional goals. The rubric that the team will use to evaluate your program is included with this e-mail

When you are writing your program evaluation, you may contact efficacy team assigned to review your department or your division representatives for feedback and input. The list of readers is being sent to you with these forms as a separate attachment.

Forms are due back to the Committee Chairs, Efficacy Team and Division Dean by **March 17, 2011**.
It is the writer's responsibility to be sure the Committee receives the forms on time.

In response to campus wide feedback that program review be a more interactive process, the committee piloted a new program efficacy process in Spring 2010 that included a review team who will interviews and/or tour a program area during the efficacy process. Another campus concern focused on the duplication of information required for campus reports. The efficacy process will incorporate the Educational Master Plan One-Page Summary (EMP Summary) and strive to reduce duplication of information while maintaining a high quality efficacy process.

Program Efficacy, Spring 2011

Complete and attach this cover sheet as the first page of your report.

Program Being Evaluated

Mathematics

Name of Division

Mathematics, Business and Computer Technology

Name of Person Preparing this Report

Jeremiah A. Gilbert

Extension

1604

Name of Department Members Consulted

Vicente Alvarez; Victoria Anemelu; Lori Ann Blecka; Stephanie Briggs; Kristen Dillard; Yvonne Marie Ellis; Ann Gibbons; Moustafa Kanawati; Abeir Israeil; Keith Lee; Michael Mayne; Zadock Reid; David Smith; Teri Strong

Name of Reviewers

Dena Murillo-Peters; Ed Millican

Program Review Committee Representatives

Michael Mayne; David Smith

Work Flow	Due Date	Date Submitted
Date of initial meeting with department		2/28/2011
Final draft sent to the dean		3/11/2011
Report submitted to Program Review Team		3/14/2011
Meeting with Review Team		

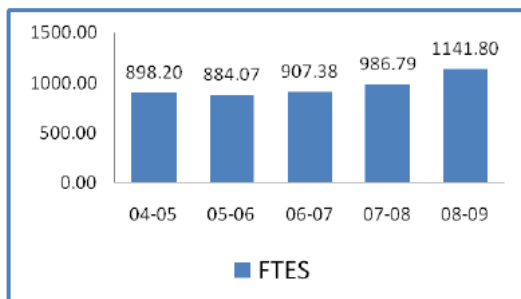
Staffing

List the number of full and part-time employees in your area.

Classification	Number Full-Time	Number Part-time, Contract	Number adjunct, short-term, hourly
Managers			
Faculty	15	30	
Classified Staff			
Total	15	30	

Educational Master Plan One-Sheet

Math



Description:

The Mathematics Department offers course work in all levels of mathematics from arithmetic through differential equations and linear algebra. Students seeking improvement in their basic mathematical skills and those desiring development of advanced mathematical methods can all find meaningful activities in the mathematics program. While there are job opportunities in pure mathematics, there are even more in education, business, engineering, and other technical fields that rely on mathematics. Students planning to transfer to a four-year institution and major in mathematics or a related field should consult with a counselor regarding the transfer process and lower division requirements.

Assessment:

Data from the past five academic years show that the department is continuing to grow. During this period, FTEF has risen from 898.20 to 1141.80, an increase of 27.12%. Likewise, both FTEF and efficiency have increased. FTEF has risen from 54.23 to 65.38, an increase of 20.56%. Efficiency has risen from 497 to 524, an increase of 5.43%. While success rates have remained relatively constant, retention is up from 70% to 73%. The number of sections offered, though, has increased from 292 to 316, a rise of 8.22%.

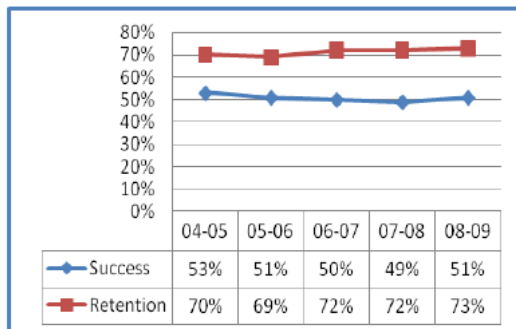
	04-05	05-06	06-07	07-08	08-09
Duplicated Enrollment	7,320	7,116	7,238	7,818	9,174
FTEF	54.23	54.83	57.60	61.86	65.38
WSCH per FTEF	497	484	473	479	524

Program Goals:

- The department wishes to continue in the growth revealed by the data to the left, particularly in the number of sections offered and FTEF generated.
- As the number of sections offered is on the rise, the department would like to make sure that all class content is up-to-date.
- As the number of students being served continues to increase, the department would like to maintain articulation agreements with nearby colleges and universities.

Challenges and Opportunities:

- It is difficult to maintain growth as the college is asking for cuts in sections and as usable classrooms are becoming scarce.
- The department presently offers 23 distinct courses, making content review an arduous process, especially with the added expectations of maintaining and assessing student learning outcomes. This will, though, provide an opportunity for all faculty to be aware of present course content and have a say in future course content.
- To maintain articulation agreements, the department must be aware of changes at nearby colleges and universities. This does provide the opportunity, though, to learn what is presently accepted and expected in the future.



Action Plan:

- Notification of any open sections will need to be given to faculty to pass on to students looking to add sections.
- Content experts will be assigned to particular classes to begin the content review process before revealing their recommendations to the department as a whole.
- The department chair will continue to work with the college's articulation officer to ensure that articulation agreements are maintained.

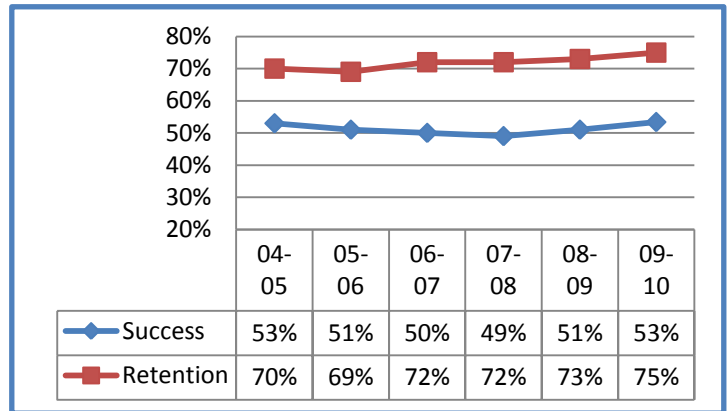
	04-05	05-06	06-07	07-08	08-09
Sections	292	294	289	304	316
% of online enrollment	4%	4%	5%	7%	6%
Degrees awarded	9	13	8	10	11
Certificates awarded					

Updated EMP Data

FTEs	
04-05	898.20
05-06	884.07
06-07	907.38
07-08	986.79
08-09	1141.80
09-10	1156.66

	04-05	05-06	06-07	07-08	08-09	09-10
Duplicated Enrollment	7,320	7,116	7,238	7,818	9,174	9,345
FTEF	54.23	54.83	57.60	61.86	65.38	63.50
WSCH per FTEF	497	484	473	479	524	546

	Success	Retention
04-05	53%	70%
05-06	51%	69%
06-07	50%	72%
07-08	49%	72%
08-09	51%	73%
09-10	53%	75%



	04-05	05-06	06-07	07-08	08-09	09-10
Sections	292	294	289	304	316	308
% of online enrollment	4%	4%	5%	7%	6%	
Degrees awarded	9	13	8	10	11	10
Certificates awarded						

Data includes: SBVC, SOFF and SBBHS

Part I. Questions Related to Strategic Initiative: Access

Use the demographic data provided to describe how well you are providing access to your program by answering the questions below.

Demographic Information

Math 2007-2010

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	641	1.0	1.0	1.0
	F	37369	60.9	60.9	62.0
	M	23342	38.0	38.0	100.0
	Total	61352	100.0	100.0	

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	8100	13.2	13.2	13.2
	A	2286	3.7	3.7	16.9
	B	11307	18.4	18.4	35.4
	F	696	1.1	1.1	36.5
	H	27895	45.5	45.5	82.0
	N	426	.7	.7	82.7
	O	517	.8	.8	83.5
	P	401	.7	.7	84.2
	W	8048	13.1	13.1	97.3
	X	1676	2.7	2.7	100.0
	Total	61352	100.0	100.0	

Does the program population reflect the college's population? Is this an issue of concern? If not, why not? If so, what steps are you taking to address the issue?

For the gender of the campus, please refer to Appendix A (retrieved February 22, 2011 from [http://depts.valleycollege.edu/research/Website/Ethnicity 04-05 to 08-09.pdf](http://depts.valleycollege.edu/research/Website/Ethnicity%2004-05%20to%2008-09.pdf)), which shows that the college's population was 55.7% female and 43.7% male for the 2008-2009 academic year. The population served by the mathematics department during this time was 60.9% female and 38.0% male. These differences are less than 5%, well within error margins, showing that the program's population does reflect the college's population in terms of gender.

For the ethnicity of the campus, please refer to Appendix B (retrieved February 22, 2011 from [http://depts.valleycollege.edu/research/Website/Ethnicity 2004-05 20 to 2008-09.pdf](http://depts.valleycollege.edu/research/Website/Ethnicity%2004-05%20to%2008-09.pdf)). For academic year 2008-2009, this report shows the college serving a population that is 20.5% African American, while the mathematics department served a population that was 18.4% African American. For academic year 2008-2009, this report shows the college serving a population that is 42.9% Hispanic, while the mathematics department served a population that was 45.5% Hispanic. These are the two largest populations served by the program and the college and both reflect less than a 5% difference from each other, well within error margins, showing that the program's population does reflect the college's population in terms of ethnicity.

Pattern of Service

How does the pattern of service and/or instruction provided by your department serve the needs of the community? Include as appropriate hours of operation/pattern of scheduling, alternate delivery methods, weekend instruction/service.

The mathematics department offers courses from starting as early as 7am and ending as late as 10pm. Courses range from those meeting four times a week to those meeting only once a week. Along with full-term courses, courses are offered in short-term, weekend, online, and computer-assisted instruction (CAI) formats. Spring 2011 saw the introduction of MATH 108 (Statistics) online. Fall 2011 will see the inclusion of MATH 952 (Prealgebra) and MATH 115 (Ideas of Math) online offerings along with introduction of hybrid sections of MATH 095 (Intermediate Algebra) and MATH 108 and CAI sections for MATH 942 (Arithmetic) and MATH 952.

Part II: Questions Related to Strategic Initiative: Student Success

Provide a brief analysis of the data and narrative from the program's EMP Summary and discuss what it reveals about your program. (Use data from the second two charts of the EMP One-Sheet on page 2 of this form)

While success rates have stayed relatively uniform (53% in 04-05 and 53% in 09-10), retention rates have been on the rise (70% in 04-05 to 75% in 09-10). This is in part due to the department's efforts to offer more alternate formats, including more online and short-term sections, along with improved awareness about support services. It should also be noted that increasingly more faculty are utilizing course management programs, such as Web Assign or MyMathLab, which provide students with supplements including videos, animations, and electronic copies of textbooks.

Supplemental Data

Provide any additional information such as job market indicators, standards in the field or licensure rates that would help the committee to better understand how your program contributes to the success of your students.

N/A

Student Learning Outcomes



San Bernardino
Valley College

Home | Site Index | Search Site:




Student Learning Outcomes (SLO)

Prospective Students | Current Students | Online College | Instructional Programs | Student Services

San Bernardino Valley College - Student Learning Outcomes (SLO)

Home » Mathematics.Business.Computer Technology » Math

Previous Directory

- | | |
|--|--|
|  MATH 090.doc |  MATH 252.doc |
|  MATH 093.doc |  MATH 265.doc |
|  MATH 095.doc |  MATH 266.doc |
|  MATH 102.doc |  MATH 285.doc |
|  MATH 103.doc |  MATH 942.doc |
|  MATH 108.doc |  MATH 952.doc |
|  MATH 115.doc |  MATH 952A.doc |
|  MATH 151.doc |  MATH 952B.doc |
|  MATH 222.doc |  MATH 952C.doc |
|  MATH 250.doc |  MATH 952D.doc |
|  MATH 251.doc |  MATH AS DEGREE.doc |

The list above shows the courses that have SLOs on file with the Office of Instruction.

If you have courses for which SLOs have not been developed, explain why. What are your plans to remedy this?

All courses within the department, along with the AS degree, have SLOs written and on file with the Office of Instruction.

Attach your three-year plan for assessing SLOs.

What progress has the program made in its three-year plan? Have you implemented any program changes based on assessment results?

Appendix C provides an overview of the department's three-year plan. With the exception of MATH 265 and MATH 266, which are only offered once a year, all courses have gone through their initial assessment and revised SLO's have been discussed, along with revised assessment methods. SLO's

have already been revised for MATH 942, MATH 942ABC, MATH 952, and MATH 952ABCD and SLO discussions have led to the revision of the department's AS degree requirements and have informed content review discussions.

Part III. Questions Related to Strategic Initiative: Institutional Effectiveness

Mission and Purpose:

SBVC Mission: San Bernardino Valley College provides quality education and services that support a diverse community of learners.

What is the purpose of the program?

The Mathematics Department offers course work in all levels of mathematics from arithmetic through differential equations and linear algebra. Students seeking improvement in their basic mathematical skills and those desiring development of advanced mathematical methods can all find meaningful activities in the mathematics program. While there are job opportunities in pure mathematics, there are even more in education, business, engineering, and other technical fields that rely on mathematics. Students planning to transfer to a four-year institution and major in mathematics or a related field should consult with a counselor regarding the transfer process and lower division requirements.

How does this purpose relate to the college mission?

The department serves a diverse community of learners, from those requiring developmental remediation, to those needing to complete degree requirements. For those requiring remediation, the department offers arithmetic and prealgebra courses that cover the fundamentals of mathematics. For transfer students, the department offers a complete range of transfer-level courses, all of which have articulation agreements with CSUs and UCs. As for services, tutoring and workshops are offered by the department, addressing student needs from 8am to 4pm. Along with full-time faculty maintaining regular and stated office hours, there are two offices within the division for adjuncts to meet with students in.

Productivity

Provide additional analysis and explanation of the productivity data and narrative in the EMP Summary, if needed. (Use data from the first two charts of the EMP One-Sheet on page 2 of this form)

From 04-05 to 09-10, FTES has raised from 898.20 to 1156.66, a rise of 28.8%. During this same time, productivity (WSCH per FTEF) has risen from 497 to 546, well above the desired 525. This has been in part due to the department's efforts to identify ideal scheduling times and formats. The number of online offerings along with late-start courses has increased during this time. Also, a number of four-day-a-week sections were converted to two-day-a-week formats.

Relevance and Currency, Articulation of Curriculum

If applicable to your area, describe your curriculum by answering the following questions.

The Content Review Summary from Curricunet indicates the programs current curriculum status. If curriculum is out of date, explain the circumstances surrounding the error and plans to remedy the discrepancy.

Mathematics, Business & Computer Technology				
Mathematics				
	Course	Status	Last Content Review	Next Review Date
	MATH090 Elementary Algebra	Active	10/23/2006	10/23/2012
	MATH093 Plane Geometry	Active	01/22/2007	01/22/2013
	MATH095 Intermediate Algebra	Active	10/09/2006	10/09/2012
	MATH102 College Algebra	Active	10/09/2006	10/09/2012
	MATH103 Plane Trigonometry	Active	11/15/2005	11/15/2011
	MATH108 Introduction to Probability and Statistics	Active	10/12/2010	10/12/2016
	MATH115 Ideas of Mathematics	Active	03/23/2009	03/23/2015
	MATH151 Precalculus	Active	11/15/2005	11/15/2011
	MATH222 Independent Study in Mathematics	Active	11/15/2005	11/15/2011
	MATH250 Single Variable Calculus I	Active	11/15/2005	11/15/2011
	MATH251 Single Variable Calculus II	Active	11/15/2005	11/15/2011
	MATH252 Multivariable Calculus	Active	11/15/2005	11/15/2011
	MATH265 Linear Algebra	Active	11/15/2005	11/15/2011
	MATH266 Ordinary Differential Equations	Active	04/15/2000	04/15/2006
	MATH942 Arithmetic	Active	12/06/2010	12/06/2016
	MATH942A Arithmetic: Whole Numbers	Active	12/06/2010	12/06/2016
	MATH942B Arithmetic: Fractions and Decimals	Active	12/06/2010	12/06/2016
	MATH942C Arithmetic: Proportions, Ratios, Percents, and Geometry	Active	12/06/2010	12/06/2016
	MATH952 Prealgebra	Active	12/06/2010	12/06/2016
	MATH952A Prealgebra: Integers	Active	12/06/2010	12/06/2016
	MATH952B Prealgebra: Fractions	Active	12/06/2010	12/06/2016

	MATH952C Prealgebra: Exponents and Linear Equations	Active	12/06/2010	12/06/2016
	MATH952D Prealgebra: Decimals, Percent, and Ratios	Active	12/06/2010	12/06/2016
	MATH103 Plane Trigonometry	Pending	11/15/2005	11/15/2011
	MATH090 Elementary Algebra	Launched	10/23/2006	10/23/2012
	MATH093 Plane Geometry	Launched	01/22/2007	01/22/2013
	MATH095 Intermediate Algebra	Launched	10/09/2006	10/09/2012
	MATH102 College Algebra	Launched	10/09/2006	10/09/2012
	MATH115 Ideas of Mathematics	Launched	03/23/2009	03/23/2015
	MATH222 Independent Study in Mathematics	Launched	11/15/2005	11/15/2011

The department is in the midst of content review. MATH 942, 942ABC, 952, 952ABCD, and 108 have gone through the process and been board approved. MATH 090, 093, 109, 102, and 115 have gone through the process and are awaiting board approval. All remaining courses, along with the AS degree in mathematics, are scheduled to be launched in CurricUNET by the end of Spring 2011.

Articulation

List Courses above 100 where articulation is not occurring	With CSU	With UC
N/A		

Describe your plan to articulate these classes.

All courses above 100 have CSU and UC articulation agreements.

Currency

Review the last college catalogue data given below. **OR**

Follow the link below and review the last college catalog data. Math begins on p. 143; Math Science Success Center on p. 19

http://www.valleycollege.edu/Instruction/Files/Catalog/2010-2011/SBVC_Catalog_1011_Complete.pdf

Is the information given accurate? Which courses are no longer being offered? (Include Course # and Title of the Course). If not, how does the program plan to remedy the discrepancy?

All information is accurate and all courses listed are currently being offered.

Planning

What are the trends, external to the institution, impacting your student enrollment/service utilization? How will these trends impact program planning?

The biggest problem is the state budget. While the department's offerings are in growing and growing demand, there has still be pressure to cut sections. As it stands right now, anywhere from 10 to 25 students are being turned away from already full sections. The number of students being served and the courses being offered could easily be increased. Also, with the recent focus on Basic Skills, it has been extremely difficult to grow the department's transfer level offerings, leaving courses such as MATH 252 (Multivariable Calculus), MATH 265 (Linear Algebra), and MATH 266 (Differential Equations) to being offered only once a year.

Accomplishments and Strengths

Referencing the narratives in the EMP Summary, provide any additional data or new information regarding the accomplishments of the program, if applicable. In what way does your planning address accomplishments and strengths in the program?

The program had three goals for last year:

1. *The department wishes to continue in the growth revealed by the data provided, particularly in the number of sections offered and FTES generated.*

In the year since this data was provided, the department has continued to grow. FTES raised from 1141.80 in academic year 08-09 to 1156.66 in academic year 09-10. While the number of section decreased from 316 in 08-09 to 308 in 09-10, this was due to the fact that the way the department's self-paced modular courses are offered was revised. Instead of their being 34 sections in a semester, the same number of students were served with only 14 sections. This revision is reflected in the department's increased efficiency from 524 in 08-09 to 546 in 09-10.

2. *As the number of sections offered is on the rise, the department would like to make sure that all class content is up-to-date.*

As identified in the department's Action Plan, content experts were assigned to individual classes to begin the content review process before revealing their recommendations to the department as a whole in a series of meetings. With this streamlined process, the department has been able to discuss the content all of the courses offered in the department and all courses will be updated through CurricUNET by the end of this term. To date, MATH 942, 942ABC, 952, 952ABCD, and 108 have gone through the process and been board approved. MATH 090, 093, 109, 102, and 115 have gone through the process and are awaiting board approval. All remaining courses, along with the AS degree in mathematics, are scheduled to be launched in CurricUNET by the end of Spring 2011.

3. *As the number of students being served continues to increase, the department would like to maintain articulation agreements with nearby colleges and universities.*

As identified in the department's Action Plan, the department's chair has continued to work with the college's articulation officer to ensure that articulation agreements are maintained. Notably, MATH 108 (Statistics) has regained in articulation agreement with UCLA this past year.

Weaknesses

Referencing the narratives in the EMP Summary, provide any additional data or new information regarding planning for the program. In what way does your planning address trends and weaknesses in the program?

The department would like to see an increase in the number of AS degrees granted with a major of mathematics. This number has been relatively stable, with a high of 13 in 05-06 and a low of 8 in 06-07. To move toward this goal, the degree requirements have been discussed and revised to make them current and in-sync with other college's in the area. These revised requirements should be through the content review process and board approved for Fall 2011.

It should also be noted that it is difficult to maintain growth within the department as the college is asking for cuts in sections and as usable classrooms are becoming scarce. This is a problem faced by all departments within the college and its importance should not be diminished.

V. Questions Related to Strategic Initiative: Technology, Campus Climate and Partnerships.

Describe how your program has addressed the strategic initiatives of technology, campus climate and/or partnerships.

In terms of technology, Spring 2011 saw the introduction of MATH 108 (Statistics) online along with existing online offerings of MATH 090 (Beginning Algebra), MATH 095 (Intermediate Algebra), and MATH 102 (College Algebra). Fall 2011 will see the inclusion of MATH 952 (Prealgebra) and MATH 115 (Ideas of Math) online offerings along with introduction of hybrid sections of MATH 095 and MATH 108 and CAI sections for MATH 942 (Arithmetic) and MATH 952. Furthermore, increasingly more faculty are utilizing course management programs, such as Web Assign or MyMathLab, which provide students with supplements including videos, animations, and electronic copies of textbooks.

In terms of campus climate, one visiting the department will find an open-door policy among most faculty, who spend hours beyond their office hours to assist students. Instructors also recommend their students to become department tutors and for the department's annual scholarship.

As for partnerships, the department now sponsors three annual events targeted at nearby high school students: Math Appreciation Day, Empowering Men in Mathematics Day, and Celebrating Women in Math and Science Day. Last year's Math Appreciation Day attracted a total of 289 students from Carter High School, Colton High School, Middle College High School, San Bernardino High School, and San Bernardino Valley College.