INSTITUTIONAL PROGRAM REVIEW 2014 – 2015
Program Efficacy Phase: Instruction
DUE: April 13, 2015

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.

For regular programmatic assessment on campus, the Program Review Committee examines and evaluates the resource needs and effectiveness of all instructional and service areas. These review processes occur on one-, two-, and four-year cycles as determined by the District, College, and other regulatory agencies. Program review is conducted by authorization of the SBVC Academic Senate.

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 appropriate committees

Our Program Review process includes an annual campus-wide needs assessment each Fall, and an in-depth efficacy review of each program on a four-year cycle. All programs are now required to update their Educational Master Plan (EMP) narrative each Fall. In addition, CTE programs have a mid-cycle update (2 years after full efficacy) in order to comply with Title 5 regulations.

Two or three committee members will be 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 embedded in the form. As you are writing your program evaluation, feel free to contact the efficacy team assigned to review your document or your division representatives for feedback and input.

Draft forms should be written (and submitted to the Dean) so that your review team can work with you at the small-group workshops (Feb 13, Feb 27, Mar 27, and Apr 10, 2015). Final documents are due to the Committee co-chair by **Friday, April 13, 2015** at midnight.

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 work with the writer as they draft their documents during the efficacy process. Another campus concern focused on the duplication of information required for campus reports. As such, the efficacy process now incorporates the EMP sheet, a curriculum report, SLO/SAO documentation already generated elsewhere. The committee continues to strive to reduce duplication of other information while maintaining a high-quality efficacy process.

Program Efficacy
2014 – 2015

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

Program Being Evaluated

Computer Science

Name of Division

Math Business & Computer Tech

Name of Person Preparing this Report	**Extension**
Roger Powell	8910

Names of Department Members Consulted

Paul Conrad, Christian Racatain, Malik Stalbert

Name of Reviewers

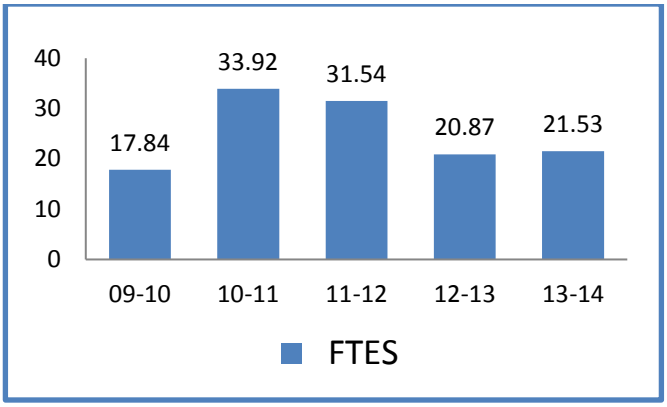
Work Flow	**Due Date**	**Date Submitted**
Date of initial meeting with department	March 16, 2015	March 16, 2015
Final draft sent to the dean & committee	March 24, 2015	March 24, 2015
Report submitted to Program Review Team	March 27, 2015	March 27, 2015
Meeting with Review Team		
Report submitted to Program Review co-chair		

Staffing*

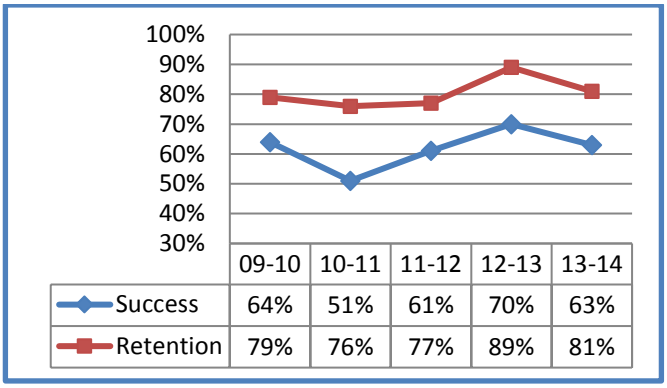
List the number of full and part-time employees in your area.

Classification	**Number Full-Time**	**Number Part-time, Contract**	**Number adjunct, short-term, hourly**
Managers	0.1	0	0
Faculty	0.5	0	3
Classified Staff	0.2	0	0
Total	0.8	0	3

*The fractional numbers indicate that there are no full-time employees dedicated to this program. The Manager (Division Dean) is shared among multiple programs. The full-time faculty is shared with the CIT program. The Classified staff (also Division employees) are shared with other programs.



	09-10	10-11	11-12	12-13	13-14
Duplicated Enrollment	100	185	175	183	191
FTEF	1.49	2.44	2.10	2.38	2.68
WSCH per FTEF	359	417	451	263	241



Description:

CS is a small program with the potential for growth. CS enrollments are hampered by strenuous Mathematics and Physics requirements. This is primarily an academic program with a small certificate option.

Assessment:

There is a clear inflection point in the data provided between 11-12 and 12-13. This is evident in all tables to the left. The decline in FTES and WSCH/FTEF is clearly associated with refurbishment of the Business Building which resulted in a 9% decline in per section enrollment between 11-12 and 12-13. Comparing the average student outcomes across the 5-years reveals a negative correlation between per section enrollment and student performance. With 9% fewer students per section there is a corresponding 9% increase in course retention and a 12% increase in success. This data would support a hypothesis that student success increases as per section enrollment decreases and warrants further investigation. The change in program outcomes is difficult to assess because of the tiny number of students who complete either a certificate or an AS degree. The much larger number of students that transfer to a 4-year institution without earning a degree or certificate mitigates the low number of degrees and certificates awarded. It is anticipated that this will change for AS-T degree once the State approves the SBVC application.

Department Goals:

1. Maintain academic standards of courses
2. Promote student academic achievement
3. Offer courses that are relevant to local job market
4. Maintain hardware and software currency
5. Promote SBVC CS and CIT programs to local HS students
6. Enhance transferability and articulation of courses

Challenges & Opportunities:

Challenges

1.State approval of degrees and certificates
2. Streamlining student completion process
3. Access to student-friendly virtual lab environments

Opportunities

1. Career opportunities created by emerging technologies
2. C-ID AS-T degree
3. Program-level SLOs
4. Active student club

	09-10	10-11	11-12	12-13	13-14
Sections	7	9	8	9	9
% of online enrollment	29%	89%	88%	89%	89%
Degrees awarded	1	0	0	0	1
Certificates awarded	2	0	0	2	1

Action Plan:

1. Monitor progress of certificate and degree approvals
2. Restructure courses/certificates/degrees to facilitate student completion
3. Expand use of Academy models and pursue funding for virtual lab(s)
4. Develop outreach and articulation for HS programs

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.

Strategic Initiative	Institutional Expectations	
	Does Not Meet	**Meets**
Part I: Access		
Demographics	The program does not provide an appropriate analysis regarding identified differences in the program's population compared to that of the general population	The program provides an analysis of the demographic data and provides an interpretation in response to any identified variance. If warranted, discuss the plans or activities that are in place to recruit and retain underserved populations.
Pattern of Service	The program's pattern of service is not related to the needs of students.	The program provides evidence that the pattern of service or instruction meets student needs. If warranted, plans or activities are in place to meet a broader range of needs.

Demographics - Academic Years - 2011-12 to 2013-14		
Demographic Measure	**Program: Computer Science**	**Campus-wide**
Asian	10.3%	5.2%
African-American	9.9%	14.2%
Hispanic	58.3%	59.2%
Native American	0.9%	0.3%
Pacific Islander	0.4%	0.4%
White	19.1%	16.8%
Unknown	1.1%	3.9%
Female	19.4%	54.8%
Male	80.6%	45.1%
Disability	6.2%	5.7%
Age Min:	19	14
Age Max:	74	84
Age Mean:	28	29

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?

There are differences between the Computer Science (CS) population and the general San Bernardino Valley College (SBVC) population in almost every demographic statistic reported. The differences are generally consistent with employment in STEM jobs as reported in Disparities in STEM Employment by Sex and Race and Hispanic Origin, published by the US Census (http://www.census.gov/prod/2013pubs/acs-24.pdf).

The table below lists of the ratio of CS students to all SBVC students and the ratio of STEM workers compared to the general US population.

When comparing this table with the table on the prior page, it is apparent that the SBVC CS program serves under-represented groups in a higher ratio than is found in the general working population of the US.

This does not mean, however, that efforts are not made to recruit chronically under represented groups. The CS Department has participated in outreach to young women through an alliance with the Girl Scouts Scouts of America to interest more young women in CS.

Demographic Measure	SBVC Computer Science	US Census STEM
Asian	198%	264%
African-American	70%	59%
Hispanic	58.3%	44%
Native American	98%	67%
Pacific Islander	100%	30%
White	118%	106%
Unknown	Data not reported by US Census	
Female	35%	26%
Male	179%	148%
Disability	Data not reported by US Census	
Age Min:	Data reported in Census is not comparable	
Age Max:	Data reported in Census is not comparable	
Age Mean:	Data reported in Census is not comparable	

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.

An analysis of recent CS course offerings supports the assertion that courses are scheduled in a manner that is helpful for students. 46% of the sections are offered during traditional school hours (M-F 8am-5pm) and 37% are offered during evening hours. Approximately 88% are offered as online sections. Further more the instruction offering for courses is varied from semester so that each required course is offered either in the evening or as an online section each year. The large number of courses identified in the EMP data as online includes both completely online and hybrid courses. The use of hybrid courses

allows students to better meet the lab hour requirements for Physics and other Science courses with required on campus activities. CS is able to meet lab requirements virtually because students typically have access to computers and the Internet from home. For students without home computers or Internet Access, the Library has computers available for their use. The fully online courses help serve students who would attend both during the day and evening in a single section.
There are two CS110 each semester and the generally fill without any difficulty. Likewise the CS190 (C++ programming) and CS 215 (Java programming) classes comfortably fill one section each semester. The remaining courses are staggered to once per year as they do not meet minimum enrollment requirements if offered every semester.

Part II: Questions Related to Strategic Initiative: Student Success

Strategic Initiative	**Institutional Expectations**	
	Does Not Meet	**Meets**
Part II: Student Success – Rubric		
Data/analysis demonstrating achievement of instructional or service success	Program does not provide an adequate analysis of the data provided with respect to relevant program data.	Program provides an analysis of the data which indicates progress on departmental goals. If applicable, supplemental data is analyzed.
Student Learning Outcomes (SLOs)	Program has not demonstrated that they are continuously assessing Student Learning Outcomes (SLOs) based on the plans of the program since their last program efficacy. Evidence of data collection, evaluation, and reflection/feedback, and/or connection to student learning is missing or incomplete.	Program has demonstrated that they are continuously assessing Student Learning Outcomes (SLOs) based on the plans of the program since their last program efficacy. Evidence of data collection, evaluation, and reflection/feedback, and connection to student learning is complete.

Provide an analysis of the data and narrative from the program's EMP Summary and discuss what it reveals about your program. (Use data from the Charts 3 & 4 that address Success & Retention and Degrees and Certificates Awarded")

The student retention and success data follow the same trend over the period reported in Table 3. There was an obvious decline between 09-10 and 10-11 academic years. This decline corresponds to a change in online sections (including hybrid and online) from 29% to 89%. This rapid change required significant adaption of teaching style and technique. The faculty observed the decline in retention and success and they adjusted as is evident with the trend recovering over subsequent years. It appears that the success and retention with very high Distributed Education courses is now stabilizing but it is important that this trend be followed carefully. The performance measure declines between 12-13 and 13-14 are a reflection of the increases in class sizes as classes were moved from the small portables to the larger permanent labs. The 2013-2014 63% success rate is between the 2010-2011 low of 51% and the 2009-2010 level of 64%. The 2013-2014 81% retention rate, while lower than the 2012-2013 high water mark of 89% is still

higher than any year between 2009-2010 and 2011-2012.
CS produces very few Certificates and Degrees mostly due to the very low number of sections that have been offered. With such few sections it is difficult for students to enroll in the courses that they need to complete as advanced courses are most susceptible to "low-enrolled" cancellation. Most CS students transfer to four-year institutions without completing an Associates degree of achieving a certificate. This data is not reflected in Table 4.

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.

The CIT AS degree for Transfer was submitted for approval but was rejected by the State Chancellor's Office because the SBVC program requires too much Physics. The disconnect is that the Transfer Degree requires Physics A and Physics B but the Physics series taught at SBVC only has two courses that provide the equivalent of Physics A, B, & C in two semesters. This means that if an SBVC student takes the first semester they have the equivalent of Physics A and 50% of Physics B. In order to complete the Physics B requirement they must then take the second semester of Physics which then gives then too many units. The Curriculum Committee Chair, Physics Chair, and CS Chair are working with the State C-ID approval process to find a solution.

The labor market analysis data (below) demonstrates a strong job market for individuals with Computer Science skills.

Computer Science – Computer Programming

Using TOP code – 707.10 > CIP code – 11.0201, there are the following linked SOC codes:

CIP 2010 Code	CIP 2010 Title	SOC 2010 Code	SOC 2010 Title
11.0201	Computer Programming/Programmer, General.	15-1131	Computer Programmers
11.0201	Computer Programming/Programmer, General.	15-1132	Software Developers, Applications
11.0201	Computer Programming/Programmer, General.	15-1133	Software Developers, Systems Software
11.0201	Computer Programming/Programmer, General.	15-1134	Web Developers
11.0201	Computer Programming/Programmer, General.	15-1152	Computer Network Support Specialists
11.0201	Computer Programming/Programmer, General.	25-1021	Computer Science Teachers, Postsecondary

Southern California Labor Market Data for CS

Area	SOC Code	Occupation	Est Yr-Projection Yr	Percent Change	Projected Annual Openings*

Riverside-San Bernardino Ontario MSA	151131	Computer Programmers	2012-2022	4.6%	27
Los Angeles-Long Beach-Glendale Metro	151131	Computer Programmers	2012-2022	6.8%	271
Santa Ana-Anaheim-Irvine Metro Div	151131	Computer Programmers	2012-2022	14.8%	207
Riverside-San Bernardino Ontario MSA	151132	Software Developers, Applications	2012-2022	20.2%	40
Los Angeles-Long Beach-Glendale Metro	151132	Software Developers, Applications	2012-2022	20.4%	518
Santa Ana-Anaheim-Irvine Metro Div	151132	Software Developers, Applications	2012-2022	16.0%	256
151133 not available at the metropolitan area level					
Riverside-San Bernardino Ontario MSA	151134	Web Developer	2012-2022	17.0%	29
Los Angeles-Long Beach-Glendale Metro	151134	Web Developer	2012-2022	31.6%	262
Santa Ana-Anaheim-Irvine Metro Div	151134	Web Developer	2012-2022	35.9%	108
Riverside-San Bernardino Ontario MSA	151152	Computer Network Support Specialists	2012-2022	7.6%	18
Los Angeles-Long Beach-Glendale Metro	151152	Computer Network Support Specialists	2012-2022	2.8%	66
Santa Ana-Anaheim-Irvine Metro Div	151152	Computer Network Support Specialists	2012-2022	5.4%	39

*Due to Growth and Separations

Source: http://www.labormarketinfo.edd.ca.gov

Student Learning Outcomes

Course SLOs. Demonstrate that your program is continuously assessing Course Student Learning Outcomes (SLOs), based on the plans of the program since the last efficacy review. Include evidence of data collection, evaluation, and reflection/feedback, and describe how the SLOs are being used to improve student learning (e.g., faculty discussions, SLO revisions, assessments, etc.). This section is required for all programs. (INSERT SLO COURSE GRID)

The following data indicates that there are inconsistencies in assessment and collection of SLO data. This is being addressed, in terms of data collection, by moving the SLOs to the new cloud environment. The assessment situation has been impacted by low section offerings for most CS sections and significant course changes (naturally accompanied by SLO changes) to match C-ID standards. Meaningful assessment is not possible when a course has not been offered more than once in three years or when the SLOs change between data collections.

The CS program is placing greater emphasis on this and there will be an improved data collection and assessment situation as the new cloud infrastructure matures.

Mathematics, Business, and Computer Technology Computer Science

Number of Courses: 9 Number of Courses Assessed: 6 Number of Ongoing Assessments: 1

San Bernardino Valley College

		General Ed	Not Assessed	Assessed	Ongoing	F07	S08	F08	S09	F09	S10	F10	S11	F11	S12	F12	S13	F13	S14	F14	S15	F15	Note
*CS	098																						Work Ex
CS	110			x	x										x				x	x			
CS	120			x									x							x			
CS	130		x																				Last Offe
CS	170		x																				Last Offe
CS	190			x											x								

CS	**198**		**x**																			**Last Offe**
CS	**215**			**x**											**x**							**Last Offe**
CS	**220**			**x**														x				**Offered**
CS	**222**																					**Indepen**
CS	**265**			**x**											**x**					**x**		
Totals:		**0**	**3**	**6**	**1**								**1**		**4**			**1**	**1**	**3**		

San Bernardino Valley College provides quality education and services that support a diverse community of learners. 3/24/2015

See Strategic Goal 2.1

Instructional Program SLOs. If your program offers a degree, certificate, or TMC, describe how the SLOs are being used to improve student learning at the program level (e.g., faculty discussions, SLO revisions, assessments, etc.). Include a discussion of how the **courses are mapped to the program**, and how this set of data is either being evaluated or is planned to be evaluated. If your program does not offer a degree, certificate, or TMC, this section is optional (but encouraged). (INSERT MAPPING GRID & RECENT PROGRAM EVAL. INFORMATION)

See Strategic Goal 2.11

Certificate Mapping

	Computer Science Certificate	Function effectively as a member of a team to accomplish common goals	Read, write, and interpret Microsoft technical information	Analyze a problem and creaft an algorithic solution	Applu knowledge of Windows development	Design, implelment, and evaluate secure computer-based system based on specifications	Think dritically and apply the scientific method	Analyze the impact of computing on individuals, organizations, and society	Respect privacy and identify responsible conduct	Engage in research, assess new ideans and information and be prepared for lifelong learning.	Exhibit professional, legal, and ethical behavior.
CLASSES											
CS 110			X	X	X	X	X	X	X	X	X
CS 120			X	X	X						
CS 190		X	X	X	X	X					X
CS 215		X		X	X	X	X				
CS 220		X	X	X	X	X		X		X	X
CIT 100			X		X	X		X			

CS Degree Mapping

	Computer Science AS Degree	Function effectively as a member of a teamto accomplosh common goals	Read, write and interpret technical information	Analyze a problem and creat an algorithmic solution	Apply knowledge of computing and mathematics to the Computer Science (CS) discipline	Design implement and evaluate secure computer-based system based specifications	Think critically and apply the scientific ethod	Analyze the impact of computing on individuals, organizations, and society	Respect privacy and identify responsible conduct	Engage in research assess new ideas and information, and be prepared for lifelong learning	Exhibit professional, legal, and ethical behavior
CLASSES											
CS 110			X	X	X	X		X	X	X	X
CS 120											
CS 130											
CS 170			X	X	X	X					
CS 190		X		X	X	X	X				X
CS 215											
CS 220		X		X	X			X			
CS 265		X			X		X			X	
Physics 200			X		X		X				
Physics 201			X		X	X	X				

Institutional SLOs/Core Competencies. Complete the **Core Competency grid** below (INSERT CORE COMPETENCY GRID). Describe how the Institutional SLOs/Core Competencies are being used to improve student learning in your program (e.g., faculty discussions, SLO revisions, assessments, etc.). This section is required for all programs.

The PLOs are defined by a mapping of the SLOs as presented in the prior section. There has been no formal evaluation of the PLOs at this time because of the changes made to courses (and SLOs) based on the TMC C-ID changes made to CS courses. The CS Department has been waiting for approval of the AS-T degree to complete this but as it is not forthcoming due to the Physics course issue already discussed above, the Department will be completing this activity during the Fall 2015 semester.

	San Bernardino Valley College **Department: <u>Computer Science</u>** For each course, use an x to identify the core competencies that are given a major emphasis and are measured.	CS 110	CS 120	CS 130	CS 190	CS 215	CS 170	CS 220	CS 276					
Commun.	1.1 Read and retain information	X	X	X	X	X	X	X	X					
	1.2 Write clearly													
	1.3 Speak clearly													
	1.4 Employ vocabulary of the subject studied	X	X	X	X	X	X	X	X					
	1.5 Demonstrate active listening skills													
Info Conmp	2.1 Find and interpret information													
	2.2 Evaluate authority and bias of information													
	2.3 Utilize technology to organize and present information	X	X	X	X	X	X	X	X					
	2.4 Demonstrate working knowledge of basic computer function	X	X	X	X	X	X	X	X					
Critical Thinking	3.1 Evaluate strengths, weaknesses and fallacies of logic			X										
	3.2 Locate, evaluate and select evidence to support or discredit an argument													
	3.3 Construct a persuasive argument													
	3.4 Apply learned knowledge to new situations	X	X	X	X	X	X	X	X					
	3.5 Apply principles of scientific reasoning to solve problems	X	X	X	X	X	X	X	X					
	3.6 Defend a logical hypothesis to explain observed phenomenon													
Ethics	4.1 Accept responsibility for own actions													
	4.2 Demonstrate respect for a diversity of ideas and the rights of others													
	4.3 Exhibit personal, professional and academic honesty													
	4.4 Display behavior consistent with ethical standards w/in a discipline													
	4.5 Apply lessons from the past to ethical issues faced in the present													
	4.6 Evaluate own ethical beliefs in relationship to moral dilemmas													

	4.7 Assume civic, political or social responsibilities														
Creative Expression & Self Awareness	5.1 Recognize own strengths and weaknesses														
	5.2 Recognize own biases and values														
	5.3 Recognize own learning style														
	5.4 Give and receive constructive feedback														
	5.5 Develop time management skills														
	5.6 Set goals for educational, personal and professional development														
	5.7 Set goals to create balance in personal and professional life														
	5.8 Evaluate diverse artistic works														
	5.9 Demonstrate creative thought through original expression							X	X						
Social Interaction & Cultural Diversity	6.1 Demonstrate etiquette in face-to-face and written interactions														
	6.2 Work effectively in group settings														
	6.3 Utilize conflict resolution skills														
	6.4 Demonstrate knowledge of and respect for other cultures														
	6.5 Demonstrate knowledge of and respect for one's own culture														

See Strategic Goal 2.11

Part III: Questions Related to Strategic Initiative: Institutional Effectiveness

Strategic Initiative	Institutional Expectations	
	Does Not Meet	**Meets**
Part III: Institutional Effectiveness - Rubric		
Mission and Purpose	The program does not have a mission, or it does not clearly link with the institutional mission.	The program has a mission, and it links clearly with the institutional mission.
Productivity	The data does not show an acceptable level of productivity for the program, or the issue of productivity is not adequately addressed.	The data shows the program is productive at an acceptable level.
Relevance, Currency, Articulation	The program does not provide evidence that it is relevant, current, and that courses articulate with CSU/UC, if appropriate. Out of date course(s) that are not launched into Curricunet by Oct. 1 may result in an overall recommendation no higher than Conditional.	The program provides evidence that the curriculum review process is up to date. Courses are relevant and current to the mission of the program. Appropriate courses have been articulated or transfer with UC/CSU, or plans are in place to articulate appropriate courses.

Mission and Purpose:

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

What is the mission statement of the program?

The mission of the Computer Science Department (CS) is to provide students with the knowledge and skills in Computer Science to allow them to transfer to a Computer Science/Computer Engineering/Computer Systems program at a four-year college and/or university or to find employment in a computer-related field.

How does this purpose relate to the college mission?

Based on individual follow-up by the CS faculty, SBVC CS students who transfer to four-year institutions report that they are well prepared for University-level course work. The CS courses match the C-ID recommendations and but for the Physics problem discussed above, the CS AS-T degree would be approved. This applies to the concept of providing quality education.

Productivity

Provide additional analysis and explanation of the productivity data and narrative in the EMP Summary, if needed. (Use data from charts 1 and 2 (FTEs; Enrollment; FTFE and WSCH per FTFE) on page 3 of this form). Explain any unique aspects of the program that impact productivity data for example; Federal Guidelines, Perkins, number of workstations, licenses, etc.

The decline in WSCH/FTEF identified in the EMP data is discussed in detail as part of that report. The decline is attributed to moving classes from the Business buildings to the portables. The portables have fewer seats which equates to a lower WSCH/FTEF.

Relevance and Currency, Articulation of Curriculum

If applicable to your area, describe your curriculum by answering the questions that appear after the Content Review Summary from Curricunet.

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

All of the courses are current except CS 215 and 220, which are currently being updated. (Pending status). There is a course (CS102) that is not listed because it was abandoned when the C-ID requirements were settled. This course should be removed from CurricuNet.

Mathematics, Business & Computer Technology				
Computer Science				
	Course	**Status**	**Last Content Review**	**Next Review Date**
	CS098 Computer Science Work Experience	Active	12/07/2009	12/07/2015
	CS110 Fundamentals of Computer Science	Active	12/03/2012	12/03/2018
	CS130 Discrete Structures	Active	09/08/2014	09/08/2020
	CS170 Assembly Language	Active	12/03/2012	12/03/2018
	CS190 Programming in C++	Active	10/06/2014	10/06/2020
	CS215 Programming with Java	Active	11/15/2004	11/15/2010
	CS220 Advanced Visual Basic.NET Programming	Active	05/12/2008	05/12/2014
	CS222 Special Problem Comp Sci I	Active	09/08/2014	09/08/2020
	CS265 Data Structures and Algorithms with C++	Active	10/06/2014	10/06/2020
	CS215 Programming with Java	Pending	11/15/2004	11/15/2010
	CS220 Advanced Visual Basic.NET Programming	Pending	05/12/2008	05/12/2014

Articulation and Transfer

List Courses above 100 where articulation or transfer is **not** occurring	With CSU	With UC

Describe your plans to make these course(s) qualify for articulation or transfer. Describe any exceptions to courses above 100.

Currency

Follow the link below and review the last college catalog data.
http://www.valleycollege.edu/academic-career-programs/college-catalog.aspx

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

The information is accurate. The only course not currently being offered is CS 098. This course has not been offered since all work experience courses in the Math, Business, and Computer Technology Division were discontinued at the direction of SBVC management. The CS Departemnt Chair is currently recruiting employers in the local area who would be interested in offering a CS work experience for SBVC students.

Part IV: Planning

Strategic Initiative	**Institutional Expectations**	
	Does Not Meet	**Meets**
Part IV: Planning - Rubric		
Trends	The program does not identify major trends, or the plans are not supported by the data and information provided.	The program identifies and describes major trends in the field. Program addresses how trends will affect enrollment and planning. Provide data or research from the field for support.
Accomplishments	The program does not incorporate accomplishments and strengths into planning.	The program incorporates substantial accomplishments and strengths into planning.
Challenges	The program does not incorporate weaknesses and challenges into planning.	The program incorporates weaknesses and challenges into planning.

What are the trends, in the field or discipline, impacting your student enrollment/service utilization? How will these trends impact program planning?

According to the United States Department of Labor, Bureau of Labor Statistics, there is a large demand for college graduates in Computer Science. The software developer occupation, for example, is projected to grow by 22% over the next 10 years (http://www.bls.gov/ooh/computer-and-information-technology/software-developers.htm). One factor that is difficult for many SBVC students interested in Computer Science is the high level of mathematics preparation needed for CS. Most incoming SBVC students are far below the expectations for CS students and many are below basic-level mathematical skills. The CS program accommodates the stringent Math requirements by scheduling CS courses at times when they do not conflict with advanced Math course scheduling. The same consideration is made for Physics courses in cooperation with the Physics Department chair. The use of the Student Success center for help with Mathematics courses should help bring more students to CS programs once they have the required minimum Mathematics preparation.

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 Computer Science Department has a successful and active student club. Among the activities that students participate in as a part of this club are the Collegiate Cyber Defense Competition and National Cyber league. These activities, along with programming competitions and conference attendance by students help motivate and encourage students to follow through on their course work. The club has also been active working with groups such as the Girl Scouts of America to promote computer science as an area of interest for young women. The College is acquiring a NetLab which will further increase the availability of virtual machines through the Internet for students enrolled in CS and other courses at SBVC. This will help with student-to student collaboration and preparation for students to compete in CS related competitions.

Challenges

Referencing the narratives in the EMP Summary and/or your data, 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 challenges have been identified in the EMP. The CS program is addressing these issues by: (1) working with the Physics Faculty Chair and the Curriculum Committee Faculty Chair to resolve the Physics requirement road block to approving the AS-T degree, (2) Streamlining student completion process is being addressed by vreating a plan to offer advanced courses in a predictable manner that is effectively communicated to the students so that they can improve their program completion, (3) The NetLab will provide access to student-friendly virtual lab environments

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

Strategic Initiative	**Institutional Expectations**	
	Does Not Meet	**Meets**
Part V: Technology, Partnerships & Campus Climate		

	Program does not demonstrate that it incorporates the strategic initiatives of Technology, Partnerships, or Campus Climate. Program does not have plans to implement the strategic initiatives of Technology, Partnerships, or Campus Climate	Program demonstrates that it incorporates the strategic initiatives of Technology, Partnerships and/or Campus Climate. Program has plans to further implement the strategic initiatives of Technology, Partnerships and/or Campus Climate.

Describe how your program has addressed the strategic initiatives of technology, campus climate and/or partnerships that apply to your program. What plans does your program have to further implement any of these initiatives?

That technology is addressed in a Computer Science program is self-evident. The Computer Science Department has partnerships with local businesses through its advisory committee. There are no MOUs on file for this partnership. The Department meets regularly with CSU San Bernardino CS faculty through the HIS STEM grant. The MPU for this is maintained by the HIS-STEM PASS Go Director.

VI: Previous Does Not Meets Categories

Listed below, from your most recent Program Efficacy document, are those areas which previously received "Does Not Meet." Address each area, by describing below how your program has remedied these deficiencies, and, if these areas have been discussed elsewhere in this current document, provide the section where these discussions can be located.

SPECIFIC DETAILS TO BE PROVIDED BY PROGRAM REVIEW COMMITTEE

N/A