

Peralta Community College District

Program Review Template 2012-13

Below please find the program review form, to be filled out by department chairs and program leaders. These will be reviewed at the college level and then forwarded to the district-wide planning and budgeting process. The information on this form is required for all resource requests – including faculty staffing requests – for the 2013-14 budget year.

I. Overview			
Date Submitted:	November 1, 2012	Administrator:	
BI Download:	September 25, 2012	Dept. Chair:	P.Thananjeyan
Dept./Program(s): (List departments and programs, including all associate degrees and certificates and components of general education and basic skills)	Department: CIS Department <u>Certificates and Degrees:</u> <ul style="list-style-type: none"> • Applied Microcomputer Information Systems – Associate in Science and Certificate of Achievement • Web Programming – Associate in Science and Certificate of Achievement 		
Campus:	Berkeley City College		
Mission	<p>The mission of the program is to educate students so that they can compete and perform successfully in today's ever-changing global business environment. Students in this program will acquire the computer technical knowledge and skills needed for initial employment, skill upgrades, career advancement, and career changes as well as the undergraduate courses needed to move into four-year business degree programs that have similar goals.</p> <p>The program fully supports the general institutional student learning outcomes of Ethics and Personal Responsibility, Information Competency, Communication, Critical Thinking, Computational Skills, Global Awareness and Valuing Diversity, Self-awareness and Interpersonal Skills.</p>		
II. Goals and Outcomes (add lines as needed)			
II.a. Goals (for each one, cite Institutional Goal(s), Appendix II)			
<ol style="list-style-type: none"> 1. Review and update course outlines, curriculums, and SLOs., Review and update certificate programs. (A. Student Success, C. Programs of Distinction) 2. Develop a minimized and optimal sequence of courses to meet certificate and degree requirements under tight budget conditions. (E. Develop Resources to Advance & Sustain Mission) 3. Meet with department advisory committee. Work collaboratively with other peralta colleges, monitor job trends and transfer requirements and update course curriculums and if necessary develop new courses. (B. Communities & Partners, D. Culture of Innovation and Collaboration) 4. Develop Computer Game Programming certificate and develop and offer classes in robotics, Android programming (A. Student Success, C. Programs of Distinction) 5. Collaborate with Multimedia, Business, and ESL Departments to create synergy and prevent course overlaps within departments. (D. Culture of Innovation and Collaboration) 6. Update computer software and hardware to meet department requirements, Explore additional online/hybrid courses and fee-based classes (E. Develop Resources to Advance & Sustain Mission) 			

II.b. Program Outcomes [for each one, cite ILO(s), Appendix I]

PROGRAM OUTCOMES(Mapped to Institutional Learning Outcomes, Appendix I):

PROGRAM 1: Micro Computer Applications

- Understand the basic components of a computer, computer programming, and operating systems. (Communication, Computational skills, information, critical thinking)
- Learn to use online resources, and use technology for personal and office use (Information competency, interpersonal skills)
- Basics concepts of computer programming and operating systems (Information competency, computational skills)
- Effective use of office applications (Communication, critical thinking, computational skills, information competency)

PROGRAM 2: CTE

- Advanced Programming and Problem solving (Communication, Computational skills, information, critical thinking)
- Learn to use online resources, and use technology for personal and office use (Information competency, interpersonal skills)
- Basics concepts of computer programming and operating systems , create functional web pages using current technology such as Java, JavaScript, JSP, Servlets, HTML. And CSS. (Communication, Computational skills, information, critical thinking, information competency)
- Effective use of office applications (Communication, critical thinking, computational skills, and information competency)

General Education component(s):

Basic Skills component(s):

Micro Computer Applications: See Above

III. Evidence			
III.a. Institutional Data			
Enrollment	Fall 2009	Fall 2010	Fall 2011
Census Enrollment (duplicated)	469	484	363
Sections (master sections)	20	15	10
Total FTES	66.12	65.23	52.52
Total FTEF	7.26	7.42	5.06
FTES/FTEF	18.23	17.6	20.73
Retention			
Enrolled	478	497	374
Retained	298	311	236
% Retained	62	63	63
Success			
Total Graded	448	444	352
Success	209	238	168
% Success	47%	54%	48%

Faculty Data (ZZ assignments excluded)			
	Fall 2009	Fall 2010	Fall 2011
Contract FTEF	2.73	2.75	1.55
Hourly FTEF	0.44	0.52	0.13
Extra Service FTEF	0.45	0.44	0.85
Total FTEF	7.26	7.42	5.06
% Contract/Total	0.75	0.74	0.61

Faculty Data Comparables F2011 (ZZ assignments excluded)				
	Alameda	Berkeley	Laney	Merritt
Contract FTEF	1.79	1.55	2.00	1.28
Hourly FTEF	0.00	0.13	3.06	0.09
Extra Service FTEF	0.53	0.85	0.29	0.52
Total FTEF	49.93	52.52	120.62	46.47
% Contract/Total	0.77	0.61	0.37	0.68

Overview

CIS program has undergone a reduction in classes since early 2000. Ten years ago, the CIS department had three full-time faculty and three lab classrooms. We currently have only two full-time faculty and two labs; moreover, a significant part of lab facilities are being used by Multi-media, ART, English, and other departments.

We had also created four certificate programs. These programs were created with the vision that when we moved into current building, we will be able to offer these certificates. However in mid 2000s, two of these programs (networking and computer science) were temporarily suspended and courses moved to other colleges. The networking program was moved to

College of Alameda and Computer Science program was moved to Laney College. This was done in part due to decline in demand caused by the economic slowdown and in part due to decrease in the enrollment at other colleges.

As shown in the table below, even within the last two years, FTES has decreased from 469 in 2009 to 363 in 2011.

	Fall 2009	Fall 2010	Fall 2011
Census Enrollment (duplicated)	469	484	363
Sections (master sections)	20	15	10

The number of course sections has dropped from 20 to 10 the same period. On a positive note, even though we could not offer these courses in a timely manner, many students have been able to find employment or transfer to four-year colleges.

In fact, though the number of our class sections has dropped approximately 50%, our enrollment has only dropped approximately 25%. We strive to offer a full sequence of degree requirements by mixing daytime and evening sections and also offer some online/hybrid sections. Virtually all class sections fill, limited only by the capacity of the classroom.

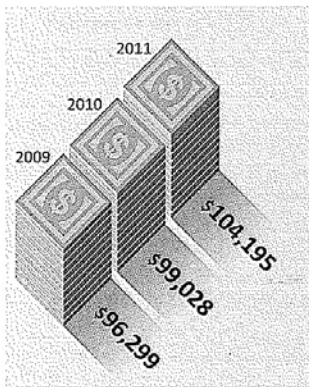
Despite the reduction in courses, CIS still appears to be one of the skills in high demand in the Bay Area. The next figure and the table below present the job demand and projected employment in Software Engineering and other related fields in the Bay Area for the years 2008 through 2012. As we can see from this table that many related areas of software development show a significant growth in employment in the San Francisco, San Mateo, Alameda, and Santa Clara areas.

The Tech Job Trends Figure shows that software developers, mobile developers, java programmers, and web developers as the top four hiring priority jobs in the Silicon Valley Area – precisely the same fields BCC has focused and would like to expand. The EDD table shows that computer software engineering profession is projected to increase by 16.5% in Oakland-Fremont, 31% in San Francisco-San Mateo, and 22.5% in San Jose-Sunnyvale Metro Service Areas.

TECH JOB TRENDS IN THE VALLEY

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SALARIES IN THE VALLEY



Job Title	Salary Snapshot*	Region	Salary Snapshot*
System architect	\$125,436	SV	\$104,195
Software engineer	\$103,662	Washington D.C./Baltimore	\$94,317
Web designer	\$89,447	SEATTLE	\$90,362
Technical writer	\$83,495	NYC	\$90,042
Web developer	\$79,614	Austin	\$89,419

*2012-2011

CERTIFICATIONS

WHAT TECH PROS NEED TO GET AHEAD*

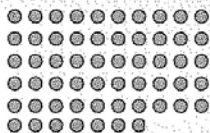
Certification	Rank
MICROSOFT CERTIFICATIONS (MCP, MCPD, MCSE, MCSA, MCTS, MS, ETC.)	1
PMP (PROJECT MANAGEMENT PROFESSIONAL)	2
ITIL	3
A+	4
CCNA	5

*Based on survey questions: "What certification(s) do you feel helped you earn a new position?"

JOBS

5,675

SILICON VALLEY JOB POSTINGS ON DICE.COM



● =100

↑3% INCREASE YOY*



*SEPT 2011-SEPT 2012

TOUGHEST SKILLS TO FIND*

Skill	Rank
MOBILE	1
.NET	2
JAVA/J2EE	3
SECURITY	4
CLOUD	5

*WEST COAST

HIRING PRIORITY*

Skill	Rank
SOFTWARE DEVELOPERS	1
MOBILE DEVELOPERS	2
JAVA	3
WEB DEVELOPERS	4
.NET	5

*WEST COAST

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Employment Projections (2008 to 2018)
 (Source: EDD Labor Market Projections Web site, November 2012)

<u>Metro Area</u>	<u>Description</u>	<u>Employment</u>	<u>Growth(%)</u>
Oakland-Fremont-Hayward	Computer and Mathematical Occupations	40,380	9.8
Oakland-Fremont-Hayward	Computer Specialists	39,240	9.8
Oakland-Fremont-Hayward	Computer Software Engineers, Applications	7,830	16.5
Oakland-Fremont-Hayward	Computer Support Specialists	5,590	4.9
Oakland-Fremont-Hayward	Computer Specialists, All Other	2,840	0.7
San Francisco-San Mateo-Redwood City	Computer and Information Systems Managers	6,240	11.6
San Francisco-San Mateo-Redwood City	Computer and Mathematical Occupations	64,060	20.5
San Francisco-San Mateo-Redwood City	Computer Specialists	62,020	20.8
San Francisco-San Mateo-Redwood City	Computer Software Engineers, Applications	14,420	31
San Francisco-San Mateo-Redwood City	Computer Support Specialists	6,160	12.6
San Francisco-San Mateo-Redwood City	Computer Specialists, All Other	5,610	15.4
San Jose-Sunnyvale-Santa Clara	Computer and Information Systems Managers	8,020	10.5
San Jose-Sunnyvale-Santa Clara	Computer and Mathematical Occupations	101,770	16.7
San Jose-Sunnyvale-Santa Clara	Computer Specialists	100,690	16.7
San Jose-Sunnyvale-Santa Clara	Computer Software Engineers, Applications	29,170	22.5
San Jose-Sunnyvale-Santa Clara	Computer Support Specialists	7,350	6.2
San Jose-Sunnyvale-Santa Clara	Computer Specialists, All Other	4,130	15.4

It is essential that we develop the program to meet the growing industry and transfer needs. Currently, we are working on creating many certificates of proficiencies, a full CS AS-T transfer program to meet the SB 1440 requirements, and a robotics program aimed at high school students to increase enrollment in the STEM programs. We earnestly request the full support of the administration in this effort.

Action Plans:

- Update course outlines and create certificates of proficiencies that could meet employment and transfer requirements.
- Create 2 or 3 year course sequence and increase budget for courses so that students can complete certificate programs in a timely manner.
- Create a weekend/Summer robotics program for high school students.

Curriculum

It must be noted that CIS is a fast changing field and the faculty are under constant pressure to update course outlines, textbooks, instructional materials, and assessments continually. CIS courses and program focus on many of the institutional outcomes listed in the appendix with emphasis on Critical Thinking, Computational Skills, and Information Competency.

A large proportion of the course outlines (all courses offered in the last three years) have been updated within the last three years. Remaining are being updated now and the goal is to have them completed by end of Spring Semester 2013. As part of the outline update, all areas of the curriculum within them are evaluated for currency and relevancy, including, but not limited to all requisites. In particular, all courses that have C-ID outlines available are being matched and submitted to CSU for certification. There are also a number of courses being evaluated for deactivation.

All CIS courses have student learning outcomes. We will develop a schedule for assessing the rest of the courses over the next few semesters and use that data to develop the assessment for all the programs.

Currently, we are in the process of updating the Program Learning Outcomes. None of the programs have been assessed as of now. However, given the nature of the courses offered here and the student composition (in and out or a few classes and then transfer or get a job or take classes to fulfill job requirements), we would be wiser to plan the program assessment based on the individual course assessments, as opposed to a portfolio system. We will develop a schedule for assessing the rest of the courses over the next few semesters and use that data to develop the assessment for all the programs

As a part of the discussion, it must be mentioned some of the CIS courses are advanced courses and are aimed at teaching the computer skills that are needed in the real high-tech world. Some areas in CIS are advanced fields and are not a part of general education or basic skills. Being advanced classes, we should not expect the same number students as in basic skill classes. However, the department has been asked to cancel moderately enrolled classes. The Web programming certificate requires a series of classes and one should expect a reduction in students in the more advanced classes.

Given the budget cuts and the cancellation of classes, we have structured many of the courses offered by the department to parallel the professional certificate programs offered by the industry. This also facilitates quick employment for the students. For example, CIS 36A and CIS 36B cover the same materials that are needed for the Oracle Certified Java Programmer and Oracle Certified Java Developer. CIS 85 covers the same materials that are needed for the Oracle Certified Web Component Developer. CIS 81 and 82 covers part of the topics required for the Oracle Certified Enterprise Architect.

We should also note here that in the recent years, with the introduction of new Tablets and advanced phones, there has been a tremendous growth in games and graphics programming. Currently there are the no courses being offered in these areas in the vicinity of BCC including adjacent districts. The department is exploring opportunities in these areas and would consider offering courses in the very near future.

Currently we are working on creating many certificates of proficiency in CIS and hope to have them in place before the end of this academic year. Again, we earnestly request the full support of the administration in this effort.

Action Plans:

- Review and update existing Micro-Computer Applications and Web Programming certificate programs, review and update course outlines, and create certificates of proficiency to meet employment and transfer requirements.
- Create 2 or 3 year course sequence and increase budget for courses so that students can complete certificate and degree programs in a timely manner.
- Create and implement plan for assessing all courses every three years.
- Create a Games and Graphics Programming Certificate
- Create courses for programming on the Android platform
- Revive and update CIS 3, CIS 20, CIS 27, CIS 36A and create an AS-T program

Instruction

The full time CIS work closely to ensure that all course outlines are accurate and up to date. Faculty regularly discusses program updates formally and informally throughout the year. These updates are also discussed at district-wide CIS meetings. These discussions ensure faculty is aware of course outline requirements and that there is a consistency of expectations in the classroom. Faculty is also involved in committee work that contributes to the department, as well as the college.

CIS faculty uses the technology available in our smart classrooms to improve student learning. Faculty also uses emails to communicate with students in a timely manner. Some courses are also offered as hybrid. This is effective for many students; others learn better in a traditional face to face classroom, with technology used as a supplement, rather than a replacement.

Student demand remains high. Our high productivity rate in view of reduced sections shows students continue to enroll even as classrooms become more crowded. The primary limitations to increasing enrollment in the CIS programs are reduced offerings and classroom size. CIS is a popular discipline for two year degrees, transfer, and skill building on the job.

CIS courses are scheduled at all times of the day and in various formats. We particularly strive to offer course for our CIS in both evening and daytime schedules to accommodate the needs of working students who have returned to the classroom to pursue higher education

Action Plans:

- Request budget allocations to increase course offerings to meet student demand.
- Develop a larger pool of part time faculty to ensure qualified instructors are available as sections are added.

Student Success

The FTEF/FTES retention and success rates are listed in the data elements and are comparable to the rest of the college. It should be noted that many students have left the programs in the middle because the courses have not been offered in a timely manner. Or they take courses at other colleges, both within and outside the Peralta District.

	Fall 2009	Fall 2010	Fall 2011
FTES/FTEF	18.23	17.6	20.73
% Retained	62	63	63
% Success	47%	54%	48%

Student support services are critical to student success. As with other disciplines/programs in the college, primary needs include counselors, tutoring, and financial aid

Overall, our Applied Microcomputer Information Systems meets basic computer skills requirements and the Web Programming Degree/Certificate meets transfer requirements. Our transfer courses are well received by four-year universities in the vicinity. A significant percent of students who take classes have 4-year college degrees in other fields and come to take classes that would secure jobs in the high-tech field.

Many students have got employment offers based on the course work completed at CIS department. There have been requests from employers and job placements companies requesting students from our department. Unfortunately, students seeking immediate employment are not tracked due to limited departments resources.

Due to lack of department resources to track employment placement, we have no data on student success in that area.

CIS continues to be a popular major in both community colleges and four year schools. Through primarily anecdotal evidence, but also using short end of the semester class evaluations, we listen to student's feedback and take action as needed.

Action Plans:

- Request budget allocations to develop and staff an accounting tutoring center.

Human and Physical Resources

The table below presents a summary of the parttime and fulltime faculty at Berkely City College compared to the other colleges in the district:

	Alameda	Berkeley	Laney	Merritt
Contract FTEF	1.79	1.55	2.00	1.28
Hourly FTEF	0.00	0.13	3.06	0.09
Extra Service FTEF	0.53	0.85	0.29	0.52
Total FTEF	49.93	52.52	120.62	46.47
% Contract/Total	0.77	0.61	0.37	0.68

Despite the fact that BCC and Laney Colleges are the only ones that offer CIS certificate programs in the district, the number of courses currently offered by BCC has been reduced to 2.53 FTEF compared 5.35 at Laney. Even College of Alameda which has no degree or certificate programs has a FTEF of 2.32. Moreover, compared to Fall 2010, Fall 2011 reflects a reduction of approximately more than 32 percent reduction in FTEF (down from 3.71 to 2.53), far greater than the college average reductions.

Action Plans:

- Increase part-time faculty to offer more CS courses

Community Outreach and Articulation

The CIS Advisory Board was active for several years, making good connections with the community. It did not meet last school year, primarily due to lack of clerical support to coordinate the event. The goal is to meet every school year; sometimes we have met every semester if the immediate need for advice from the community was apparent. The primary feedback of industry needs has repeatedly emphasized the need for skills in basic and advanced career skills. Our program has a strong component of that (which also matches our Institutional Learning Outcomes. In addition, faculty is in the process of updating CIS courses to make it even more relevant and to match the CSU C-ID descriptor.

Action Plans:

- Revitalize the CIS advisory board.
- Request budget allocations for staffing to allow for job development activities in the community and for tracking job placements.

IV. Action Plans

Please describe your plan for responding to the above data. Consider program learning outcomes, institutional goals, external evidence, and BI data. Also, please reference any cross district collaboration with the same discipline at other Peralta colleges.

Include overall plans/goals and specific action steps. Add rows as needed.

Action Item	Steps/Timeline	Person(s) Responsible	Supporting Data Source (check all that apply)
Action Plan Item 1 Review and update course outlines and SLOs and Programs Learning Outcomes, Deactivate courses that have not been taught for several years.	Fall and Spring	CIS Faculty	<input type="checkbox"/> Assessment Findings <input type="checkbox"/> BI Data <input checked="" type="checkbox"/> Institutional Goals <input type="checkbox"/> Other
Action Plan Item 2 Review and update certificate programs and develop an optimal course sequence. Expand CS course offerings; deactivate basic general education classes that have been offered for years.	Fall and Spring	CIS Faculty	<input type="checkbox"/> Assessment Findings <input type="checkbox"/> BI Data <input checked="" type="checkbox"/> Institutional Goals <input type="checkbox"/> Other
Action Plan Item 3 Hire Part-time faculty to teach CS courses.	Fall and Spring	CIS Faculty	<input type="checkbox"/> Assessment Findings <input type="checkbox"/> BI Data <input checked="" type="checkbox"/> Institutional Goals <input type="checkbox"/> Other
Action Plan Item 3 Update courses to comply with SB 1440 and create an AAT program	Fall and Spring	CIS Faculty	<input type="checkbox"/> Assessment Findings <input type="checkbox"/> BI Data <input checked="" type="checkbox"/> Institutional Goals <input type="checkbox"/> Other
Action Plan Item 4 Explore the possibility of creating an engineering transfer program,	Fall and Spring	CIS Faculty	<input type="checkbox"/> Assessment Findings <input type="checkbox"/> BI Data <input checked="" type="checkbox"/> Institutional Goals <input type="checkbox"/> Other
Action Plan Item 5 Complete game programming certificate in collaboration with Multimedia Department	Fall and Spring	CIS Faculty	<input type="checkbox"/> Assessment Findings <input type="checkbox"/> BI Data <input checked="" type="checkbox"/> Institutional Goals <input type="checkbox"/> Other
Action Plan Item 6 Develop and offer classes in robotics. Create partnership for STEM program with high schools.	Spring	CIS Faculty	Assessment Findings <input type="checkbox"/> BI Data <input checked="" type="checkbox"/> Institutional Goals <input type="checkbox"/> Other

V. Resource Needs	Link to Action Plans (Section)
<p>Please describe and prioritize any faculty, classified, and student assistant needs.</p> <ul style="list-style-type: none"> • Need to increase FTEF to be able offer courses in a timely manner so that students can complete certificate programs in a timely manner. Need PT faculty who can teach CS courses – Priority 1. • Need student assistants to support concurrent classes – Priority 1. • Need student assistants for lab classes – Priority 2. • Need tutors to help students outside of class – Priority 3. • Need financial assistance/relief time to update courses outlines, certificate programs, develop online courses, etc described in action plan (see Section IV) – Priority 2 	<p>These are needed to support action plans item 1 through 6 in section IV.</p> <p>Additional faculty and student support will be needed to expand the CS/CIS courses and program.</p> <p>CS Faculty will need release time to update courses, create additional programs and certificates, and create a working partnership with the high schools for a STEM program.</p>
<p>Please describe and prioritize any equipment, material, and supply needs.</p> <ul style="list-style-type: none"> • Monitors in lab 312 need to be upgraded to meet course needs. These should be updated to meet Windows 8 touch-screen requirements. • Upgrade memory on all computers in room 312 and 323 to 16 GB. • CIS faculty computers must be upgraded to meet their educational and teaching needs. The current computers are many years old and have 1 GB Memory and 70 GB storage. These are clearly outdated and must be urgently replaced. • CIS Faculty computer in room 556 needs to be updated. • Printers in rooms 312, 323, and 556 must be updated. The lab printers are heavily used and have not been updated since they were first installed. 	<p>These are needed to support action plans item 2 through 6 in section IV.</p> <p>All courses need upgraded labs to support course work.</p>
<p>Please describe and prioritize any facilities needs.</p> <ul style="list-style-type: none"> • Currently all CIS classes are being held in two labs (Room 312 and room 323). These labs are also being shared by Multimedia, ESL, English, and other departments. Additional labs would be required when we start increasing the number of classes offered to the previous levels. The courses we can offer are limited by the computer lab and classroom availability. • Room 324 which used to be homework lab has been changed into a MMART lab. As a result we have had no computer homework lab for more than a year. A homework lab urgently needed for all students. 	<p>We will not be able offer any more courses until we can get more lab facilities.</p>

Appendix I

Berkeley City College Institutional Learning Outcomes

Berkeley City College's Institutional Learning Outcomes, as described below, are the skills and knowledge that students are expected to attain as a result of completing an instructional program at BCC. Students completing an A.A. or A.S. at BCC will be able to demonstrate all of the BCC Institutional Learning Outcomes. All BCC courses and certificates are designed to teach some or all of the ILO's. In addition, students achieve these ILO's throughout their experiences at BCC, for example, with student services and student clubs.

Communication

Students show that they communicate well when they

- *Critically read, write, and communicate interpersonally, with audience awareness; and*
- *analyze communications for meaning, purpose, effectiveness, and logic.*

Critical Thinking

Students demonstrate critical thinking skills when they

- *identify problems or arguments and isolate facts related to arguments;*
- *use evidence and sound reasoning to justify well-informed positions; and*
- *generate multiple solutions to problems and predict consequences.*

Computational Skills

Students demonstrate computational skills when they

- *master computational concepts and apply them to concrete problems; and*
- *demonstrate algorithmic competence.*

Ethics and Personal Responsibility

Students show the ability to behave ethically and assume personal responsibility when they

- *analyze the consequences of their actions and the impact of these actions on society and the self; and*
- *demonstrate collaborative involvement in community interests.*

Global Awareness & Valuing Diversity

Students demonstrate global awareness and show that they value diversity when they

- *identify and explain diverse customs, beliefs, and lifestyles; and*
- *analyze how cultural, historical, and geographical issues shape perceptions.*

Information Competency

Students demonstrate information competency when they

- *find, evaluate, use, and communicate information in all its various formats;*
- *use library and online resources and research methodology effectively; and*
- *use technology effectively.*

Self-Awareness & Interpersonal Skills

Students demonstrate self-awareness and interpersonal skills when they

- *analyze their own actions and the perspectives of other persons; and*
- *work effectively with others in groups.*

Appendix II

Institutional Goals

Berkeley City College's Institutional Goals are aligned with the PCCD Strategic Goals, and are listed below:

Advance Student Access, Success & Equity

Engage our Communities & Partners

Build Programs of Distinction

Create a Culture of Innovation & Collaboration

Develop Resources to Advance & Sustain Mission