



PROGRAM REVIEW OF LABS AND CENTERS
Pilot Review – Phase I
Approved by the Academic Senate
May 12, 2009

The Program Review process should serve as a mechanism for the assessment of performance that recognizes and acknowledges good performance and academic excellence, improves the quality of instruction and services, updates programs and services, and fosters self-renewal and self-study. Further, it should provide for the identification of weak performance and assist programs in achieving needed improvement. Finally, program review should be seen as a component of campus planning that will not only lead to better utilization of existing resources, but also lead to increased quality of instruction and service. A major function of program review should be to monitor and pursue the congruence between the goals and priorities of the college and the actual practices in the program or service.

-Academic Senate for California Community Colleges

Name of Lab or Center: CIS Lab and Computer Forensics/Networking Lab
Division: Business/Technology

I. GENERAL PURPOSE OF THE LAB* (*Data resources: CSM Course Catalog; Course Outline of Record; department records*)

*Note: The term "lab" will be used to refer to centers as well as labs in this document.

a. Briefly describe the general purpose of the lab.

The purpose of the CIS lab is to help CSM students of all backgrounds succeed in their courses. The CIS lab hosts regularly-scheduled lab sessions for most CIS courses, and provides support to students enrolled in CIS, Architecture, Drafting Technology, Engineering, and Nursing courses. In addition, the lab is available so that students enrolled in these courses can complete their assignments and/or their required hour by arrangement. CIS students can improve their programming and other skills during scheduled, instructor-led lab sessions. This helps to reinforce material introduced in lecture. Architecture, Drafting Technology, Engineering, and Nursing students use specialized software to complete their assignments and/or fulfill their hour by arrangement.

The CIS lab is available to all CSM students, but priority is given to CIS, Architecture, Drafting Technology, Engineering, and Nursing students.

By offering these programs and by measuring student learning outcomes, the CIS Lab of College of San Mateo serves to improve retention in CIS as well as other courses.

The Computer Forensics/Networking lab in Building 29 serves as a classroom and lab for Computer Forensics, Networking, and Security courses. There is no open lab held.

b. List the courses that are linked to this lab.

CIS courses with scheduled instructor-supervised lab hours:
 CIS 111, CIS 254, CIS 255, CIS 256, CIS 278, CIS 279, CIS 312, CIS 313, CIS 362, CIS 390, CIS 684

CIS courses with lab-based assignments and/or hour by arrangement:

CIS 110, CIS 111, CIS 151, CIS 254, CIS 255, CIS 256, CIS 278, CIS 279, CIS 312, CIS 313, CIS 377, CIS 379, CIS 380, CIS 390, CIS 362, CIS 390, CIS 479, CIS 488, CIS 489, CIS 490, CIS 491, CIS 492, CIS 680, CIS 681, CIS 684

Architecture courses with lab usage (students use CIS login):

ARCH 120 (Sketchup), ARCH 140 (Sketchup)

Drafting Technology courses with lab usage (students use CIS login):

DRAF 110, DRAF 121

Engineering courses with lab usage (students use CIS login):

Fall 2008: ENGR 215 (Matlab, full semester), ENGR 100 (Matlab, 1 week)

Spring 2009: ENGR 210 (Solidworks, full semester; AutoCAD, 1/2 semester)

Nursing courses with lab usage (students use nursing login):

NURS 211, NURS 212, NURS 221, NURS 222, NURS 231, NURS 232, NURS 241, NURS 242, NURS 681

Although priority is given to CIS, Architecture, Drafting, Engineering, and Nursing students, all students may use the CIS lab if space is available. All other students use a guest login.

CIS courses held in the Computer Forensics/Networking lab are:

CIS 151, CIS 479, CIS 488, CIS 489, CIS 490, CIS 491, CIS 492

Students in the above-mentioned courses often use the CIS lab outside of scheduled class time.

- II. **STUDENT LEARNING OUTCOMES** (*Data resources: SLOs listed on Course Outline of Record; records maintained by the department; CSM SLO/Assessment Coordinator; SLO Website – <http://www.collegeofsanmateo.edu/sloac/>; “Student Self-Assessment and Satisfaction Survey”; other lab surveys.*)

- a. Briefly describe the Student Learning Outcomes (SLOs) for the lab.

1. Students will be able to create, relocate, save, rename and backup files on local machine and via email and USB drive.
2. Students will be able to login to web based services such as WebAccess and web-based my.smccd.edu email.
3. Students will be able to apply technical knowledge of relevant computer applications used to solve real-world problems pertaining to their specific course work.
4. Students will be able to use ‘help files’ and online resources to answer questions about unfamiliar software.
5. Students will be able to navigate the internet and CSM website including WebSMART and WebAccess.
6. Students will learn that one of their best resources for completing an assignment will often come from working with other students in the same class.

There are no SLOs defined for the Computer Forensics/Networking lab.

- b. If an assessment of the lab's SLOs has been completed, briefly describe this evaluation. Which support services for courses or programs were assessed? How were they assessed? What are the findings of the assessment? Based upon this assessment, what changes to the lab will be considered or implemented in the future?

The CIS department has not formally assessed the CIS lab SLOs. In Spring 2009, the CIS lab completed student surveys to evaluate whether students felt the lab was helping them to meet the goals defined by the SLOs. The results were as follows:

Question #11: "To what extent did your work in this lab help your academic performance in courses linked to the lab or supported by this lab?" (For example, you use the Math Resource Center and are also enrolled in a Math course.)

(n=20 respondents)

	Count	Percent
Very helpful	15	75.0%
Somewhat helpful	3	15.0%
Not helpful	2	10.0%
*I am not enrolled in a course linked to this lab	0	0%

*Note: Percentages reported above exclude students who were not enrolled in a linked course

The student survey was taken by only 1 student in a Computer Forensics/Networking course so it is not statistically significant. The student responded to the above question that it was "Somewhat helpful."

- c. If SLOs were assessed for courses or programs using the lab, briefly describe this evaluation. What are the findings of the assessment? Based upon this assessment, what changes to the lab will be considered or implemented in the future?

CIS 254

- Observation: This is the introductory programming course for the transfer track. Students often have weak math skills, which is a predictor for non-success. The CIS department has no drop-in lab, unlike the Math and English departments. Students need access to tutors and the college does not provide adequate tutoring services, unlike other campuses within and outside of the district. Classes have high attrition, due at least in part to the lack of support services for students. Introduction of robot programming has helped lower attrition. The majority of students successfully completing the course have achieved the learning outcomes. Students with strong math skills do best in this course.

- Action: Faculty will:

- Continue using Lego Mindstorms robots to reinforce programming concepts.
- Request funds for CIS tutors so that we can provide drop-in and scheduled tutoring services.

Effort has been made in the CIS 254 course to reinforce material learned during lecture in the lab environment. The use of Lego Mindstorms robots during scheduled lab sessions for CIS 254 has helped more students to achieve the SLOs.

Providing tutoring services in the lab for CIS students would help students struggling with course material to get timely assistance. Many students have remarked that other CSM labs provide drop-in and scheduled tutoring, yet the CIS lab offers no such services. This would greatly benefit students in the intro CIS 254 course, who often need additional help beyond the scheduled lab sessions. Lab assistants on duty can sometimes help students with their coursework, but only if they are familiar with the material. Student tutors would be able to provide in-depth assistance to students.

Having faculty assigned to the CIS lab would be another way to provide drop-in help for students. Many other CSM labs have faculty in attendance to assist students with their coursework outside of scheduled lab sessions. Faculty could also oversee the hour by arrangement required by many courses while present in the lab.

SLOs were assessed for all CIS courses using the CIS lab. The transfer-track courses CIS 255, CIS 256, CIS 278, and CIS 279 have scheduled instructor-led lab sessions, in addition to an hour by arrangement. SLOs have been assessed for all of these courses. Apart from having supervision for the hour by arrangement by someone with minimum qualifications, no other changes to the lab are being considered at this time. This applies also to other courses with the hour by arrangement.

SLOs for courses scheduled in the Computer Forensics/Networking lab have identified a need to offer the Computer Forensics and Networking courses online. The Computer Forensics courses have been low-enrolled because the target audience (law enforcement) has schedules that vary several times during a single semester. Students find it difficult to commit to a lecture/lab class for a full semester because of their changing work shifts. Also, many students outside of our district have expressed interest in our program.

- d. Using the results from the "Student Self-Assessment and Satisfaction Survey," summarize the findings in the grid below on how students rated their progress on general education Student Learning Outcomes.

The row headings identify the GE-SLOs. The third and fourth column headings indicate the matrix/scale students used to self-assess progress.

GE SLOs	Survey Responses	Major/Moderate Progress	Minor/No Progress
Effective Communication	Express ideas and provide supporting evidence effectively in writing (n= 10)	80.0%	20.0%
	Express ideas and provide supporting evidence effectively orally (n=10)	80.0%	20.0%
	Comprehend, interpret, and analyze information I read (n=11)	90.9%	9.1%

Effective Communication	Comprehend, interpret, and analyze information I hear (n=11)	90.9%	9.1%
	Communicate effectively in a group or team situation (n=11)	63.6%	36.4%
Quantitative Skills	Comprehend, interpret, and analyze numerical and or quantitative calculations (n=9)	77.8%	22.2%
	Interpret graphical representations of quantitative information (e.g. graphs) (n=9)	55.6%	44.4%
Critical Thinking	Effectively identify, develop, and evaluate arguments (n=10)	70.0%	30.0%
	Effectively assess the legitimacy or adequacy of different types of information (n=10)	70.0%	30.0%
Social Awareness and Diversity	Work effectively with others of diverse backgrounds (n=11)	63.6%	36.4%
	Acknowledge the value of diverse opinions and perspectives (n=10)	60.0%	40.0%
Ethical Responsibility	Identify ethical issues and evaluate their consequences (n=9)	66.7%	33.3%

- e. If general education Student Learning Outcomes have been measured using another type of assessment, such as student surveys, summarize the findings in the grid below on how students rated their progress on these Student Learning Outcomes. (Please identify data sources.)

Deliberately left blank: No other assessment GE-SLOs completed

GE SLOs→	Effective Communication	Quantitative Skills	Critical Thinking	Social Awareness and Diversity	Ethical Responsibility
Matrix/Scale:					
Major Progress					
Moderate Progress					
Minor Progress					
No Progress					
Does Not Apply to Lab					

III. **DATA EVALUATION** (Data resources: "Student Self-Assessment and Satisfaction Survey"; other lab surveys; "Student Profile Data for Labs, Spring 2009"; "Core Program and Student Success Indicators" for department(s) using lab obtained from the Office of Planning, Research, and Institutional Effectiveness – see website at http://www.smccd.net/accounts/csmresearch/prie/program_review.html .)

- a. Referring to all lab usage data available, evaluate the proportion of students using the facility versus the potential population of users. If data is available, indicate the number of users and specify whether this is a duplicated or unduplicated count. If applicable, discuss programmatic, course offering or scheduling changes being considered as a result of lab usage projections? Will any major changes being implemented in the program (e.g. changes in prerequisites, hours by arrangement, lab components) require significant adjustments to lab operations?

The number of students responding to the survey is very small (21) compared to the actual number of students who use the CIS lab. Student usage of the lab has not been tracked, except for nursing students who had to sign in when using the lab. We will use the SARS tracking system to monitor all lab usage starting fall 2009. This will supply the data necessary to predict lab usage patterns and will facilitate decision-making for any programmatic changes and for lab operations.

The Spring 2009 Student Self-Assessment and Satisfaction Survey provides the following data:

The enrollment profile indicates that of the 21 students who completed the survey:

31.6 % were enrolled in one course

15.8 % in two courses

21.1 % in three courses

21.1% in four courses

10.5% in five courses

0% in six courses

0% in seven courses

0% in eight courses

This reflects a total of 19 students who provided personal information on the survey.

Of these courses, 60% were day and 40% were evening courses. This is an unduplicated count.

Our scheduling and open hours are appropriate given these numbers. No major changes will be implemented to the hours that the lab is open, but we do need more part-time lab assistant coverage. If the administrative assistant is not present there and there is no lab assistant on duty then the lab must be closed during scheduled open hours.

The hour by arrangement might be eliminated for some courses if there is no one with minimum qualifications to oversee the hour by arrangement in the lab.

Because only one student responded to the survey for the Computer Forensics/Networking lab there is insufficient data to interpret. That student was enrolled in two CIS evening courses.

- b. Discuss staffing of the lab. Obtain FTE data for classified and certificated personnel assigned to staff the lab (available from division deans). Evaluate the current data and departmental projections as indicated on the "Core Program and Student

Success Indicators.” If applicable, how does the full-time and part-time FTE affect program action steps and outcomes? What programmatic changes do trends in this area suggest? If student assistants work in the lab, discuss hours of employment, job duties, and how they support program services and scheduling.

The CIS lab is staffed by part-time student lab assistants and one 11-month Instructional Aide II.

Fall 2008 – 4 part-time lab assistants worked 568 hours total
Spring 2009 – 7 part-time lab assistants worked 621.5 hours total

This is a highly significant reduction from the 2007-08 academic year:

Fall 2007 – 931.25 hours of paid lab assistant time
Spring 2008 – 764.0 hours of paid lab assistant time

Budgetary constraints have reduced lab assistant hours and, as a consequence, students get less help in the lab. Unlike other campus labs with tutoring services and faculty assistance, the CIS lab offers minimal assistance in terms of help with coursework except during scheduled, instructor-led lab sessions.

The job duties of the lab assistants include helping students with procedural questions; opening, closing, and cleaning the lab; providing instructional materials, maintaining lab computers, and data reports. Lab assistants also answer students' questions, but if they are unfamiliar with the subject matter then they are sometimes unable to do so. Effort is made to hire assistants who have taken CIS programming courses.

The 11-month instructional aide provides a wide variety of services for students and staff in the CIS lab;

- recruits, screens and hires students as lab assistants, including Work Study students;
- trains and directs the work of student lab assistants;
- schedules lab assistant hours;
- covers empty lab assistant time slots as needed;
- reviews, corrects and approves student lab assistant timesheets including online Web entry timesheets;
- distributes and receives computer lab equipment, books, documentation and other materials as requested;
- provides information and assistance as technical expert to students, faculty and to College staff regarding lab procedures;
- coordinates between faculty and Information Technology Services regarding installation and configuration of software in the CIS labs;
- provides general information to prospective students regarding the CIS program;
- retrieves online data; compiles statistical and other data for a variety of reports as assigned;
- composes correspondence, reports, memoranda and other written materials as requested by the dean or other staff;
- inventories, monitors and purchases laboratory supplies; and
- performs a variety of other related duties as assigned.

There are no lab assistants in the Computer Forensics/Networking lab, and no open lab hours. Lectures and labs are conducted by the instructors during the class period, although instructors are often generous with their time and provide access before or after the class period. The administrative assistant for the CIS lab provides support for the lab such as ordering equipment,

acting as a liaison to ITS, and providing information to prospective students

- c. Report on student satisfaction as indicated in the "Student Self-Assessment and Satisfaction Survey" and, if applicable, as indicated in other student surveys.

The Spring 2009 Student Self-Assessment and Satisfaction Survey for the CIS lab indicates that overall, students rate the services available very highly: 94.2% rated the quality of the services they received as "good to excellent," while 100% indicated that the lab staff was helpful and 100% said that procedures for using the lab were clear and easy to follow. All students (100%) reported that the lab was available to them most or all of the time. In addition, 90% of students reported that they were able to get the help they needed most or all of the time.

Most significantly, 90% of respondents believed that work in the lab helped their academic performance.

On the other hand, the results show that students would like more individual meetings with faculty. Currently there is no faculty assigned to the CIS lab, although some faculty members hold office hours in the lab as a convenience to students.

The survey was conducted mid-semester and thus did not include students who had already dropped courses because they could not get the help they needed.

The single student responding to the survey for the Computer Forensics/Networking lab reported that she was able to get the help that she needed 100% of the time.

IV. **STUDENT SUCCESS EVALUATION AND ANALYSIS** (Data resources: "Student Self-Assessment and Satisfaction Survey"; other lab surveys; "Student Profile Data for Labs, Spring 2009"; "Educational Master Plan, 2008" – see website at http://www.smccd.net/accounts/csmresearch/prie/institutional_documents.html; student success data from departmental "Core Program and Student Success Indicators" – see website at http://www.smccd.net/accounts/csmresearch/prie/program_review.html; previous Program Review and Planning reports; other department records.)

- a. Based on findings from the "Student Self-Assessment and Satisfaction Survey" and other student surveys administered by the lab, briefly describe how effectively the lab addresses students' needs relative to overall college student success rates. If applicable, identify unmet student needs related to student success and describe programmatic changes or other measures the department will consider or implement in order to improve student success. (Note that item IV b, below, specifically addresses equity, diversity, age, and gender.)

Please identify the survey instruments used and the number of respondents.

The College success rate overall is 71.7%. The Student Self-Assessment and Satisfaction Survey for Spring 2009 (with 21 respondents) indicates that students believe that the lab helped their academic performance, with 90% believing that it was "somewhat" or "very" helpful. For

comments related to unmet needs, see responses to III b and III c above.

- b. Briefly discuss how effectively the lab addresses students' needs specifically relative to equity, diversity, age, gender, disability and access. If applicable, identify unmet student needs and describe programmatic changes or other measures that will be considered or implemented in order to improve student success with specific regard to equity, diversity, age, and gender.

Of the 19 students who provided personal information on the Student Self-Assessment and Satisfaction Survey in Spring 2009 for the CIS lab, 4 were Asian, 0 African American, 1 Filipino, 1 Hispanic, 0 Native American, 0 Pacific Islander, 9 White, and 4 Unrecorded.

In terms of Gender, 4 were female, 13 were male, with 2 Unrecorded. In terms of age, 5 were 19 years or younger, 2 were 20-24 years old, 6 were 25-29, 3 were 30-34, 0 were 35-49, 0 were 40-49. 3 were 50 or older. 60% of the respondents took daytime courses, while 40% were enrolled in evening courses.

The survey does not give us information about other forms of diversity, such as sexual orientation, learning styles, preparedness, or learning disabilities.

The single student who took the survey for the Computer Forensics/Networking lab was a Hispanic female, age 20-24 who was enrolled in 2 evening CIS courses.

V. REFLECTIVE ASSESSMENT OF INTERNAL AND EXTERNAL FACTORS AND PROGRAM/STUDENT SUCCESS *(Data Resources: "Student Self-Assessment and Satisfaction Survey"; other lab surveys; "Student Profile Data for Labs, Spring 2009"; "Educational Master Plan, 2008"; "2008-2013 College of San Mateo Strategic Plan" – see website at http://www.smccd.net/accounts/csmresearch/prie/institutional_documents.html; student success data from departmental "Core Program and Student Success Indicators" – see website at http://www.smccd.net/accounts/csmresearch/prie/program_review.html; previous Program Review and Planning reports; department records; other environmental scan data.)*

- a. Using the matrix provided below and reflecting on the lab relative to students' needs, briefly analyze the lab's strengths and weaknesses and identify opportunities for and possible threats to the lab (SWOT). Consider both external and internal factors. For example, if applicable, consider changes in our community and beyond (demographic, educational, social, economic, workforce, and, perhaps, global trends); look at the demand for the lab; review program links to other campus and District programs and services; look at similar labs at other area colleges; and investigate auxiliary funding.

Note: Please indicate the source of the data that was used to complete this section.

	INTERNAL FACTORS	EXTERNAL FACTORS
Strengths	<p>The CIS lab is open long hours during the week.</p> <p>The CIS lab is open to all CSM students.</p> <p>The CIS lab supports many different programs.</p> <p>The CIS lab has scheduled, instructor-led lab sessions for many CIS courses. This allows students to immediately do hands-on lab assignments incorporating material covered in lecture.</p> <p>Students in the intro programming course use robots in their assigned labs.</p>	<p>Enrollment in CIS courses is tied to hiring trends but, despite the weak economy, CIS enrollment is healthy.</p> <p>Nursing degrees are in demand so the CIS lab is heavily used by nursing students.</p>
Weaknesses	<p>No tutoring services are offered in the CIS lab.</p> <p>Budget constraints have prevented hiring enough lab assistants to provide coverage.</p> <p>Many courses have an hour by arrangement that must be overseen by faculty or staff with minimum qualifications. No faculty members are assigned to provide assistance to students in the lab (except during scheduled lab sessions). Lab assistants can only help students with their coursework if they are familiar with the material, but cannot oversee the hour by arrangement.</p> <p>Students needing support for CIS courses using the csmcis2 web server cannot get adequate assistance.</p>	<p>State funding for community colleges has been slashed.</p>
Opportunities	<p>The CIS department could expand the online CIS Internet Programming certificate curriculum to become an associate's degree if it could get adequate support for the csmcis2 web server located in the CIS lab.</p>	<p>Internet programming is one of the few areas in computing in which students can get hired with community college training.</p>
Threats	<p>The Dell computers in the CIS lab are at the end of their lifecycle. They are 5 years old and are no longer under</p>	<p>State funding for community colleges has been slashed. It is uncertain where funds to replace</p>

	<p>warranty. In addition, ITS will not support hardware that is more than 4 years old.</p> <p>Lab computers still run Windows XP and cannot be upgraded to Vista or Windows 7 without a memory upgrade.</p> <p>Lack of administrative support for the csmcis2 web server located in the CIS lab endangers many of our online CIS courses.</p>	<p>the lab computers would be available.</p>
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**Data sources are the Student Self-Assessment and Satisfaction Survey for Spring 2009 and the CIS Program Review.

- b. If applicable, discuss how new positions, other resources, and equipment granted in previous years have contributed towards reaching program action steps and towards overall programmatic health (you might also reflect on data from Core Program and Student Success Indicators). If new positions have been requested but not granted, discuss how this has impacted overall programmatic health (you might also reflect on data from Core Program and Student Success Indicators).

In 2007 we received a Trustees' Grant for Program Improvement to purchase Lego Mindstorms robots for the intro CIS 254 programming course. We had additional robots purchased by Business/Technology division funds. The robots have been used in the CIS lab for the last two years, and have been instrumental in helping prepare students for higher-level programming courses. Students who have weak math and logic skills have responded especially well to the robots.

VI. **Action Steps and Outcomes** (*Data Resources: "Student Self-Assessment and Satisfaction Survey"; other lab surveys; "Student Profile Data for Labs, Spring 2009"; "Educational Master Plan, 2008"; "2008-2013 College of San Mateo Strategic Plan" – see website at http://www.smccd.net/accounts/csmresearch/prie/institutional_documents.html; student success data from departmental "Core Program and Student Success Indicators" – see website at http://www.smccd.net/accounts/csmresearch/prie/program_review.html; previous Program Review and Planning reports; department records; other environmental scan data.*)

- a. Identify the lab's action steps. Action steps should be broad issues and concerns that incorporate some sort of measurable action and should connect to the "Educational Master Plan, 2008"; "2008-2013 College of San Mateo Strategic Plan"; the Division work plan; and GE- or certificate SLOs.

1. Providing tutorial services in the lab would be one way to promote retention in CIS courses, particularly the intro programming course. Students often have weak math and logic skills and are in need of tutoring. Unlike other colleges, we do not offer tutoring for CIS classes. Having student tutors on duty in the CIS lab would help the weaker students to overcome their deficiencies

2. Another way to help students would be to have assigned lab hours for faculty. Other campus labs have faculty members on duty. This would be one way to oversee the hour by arrangement mandated by many CIS (and other) courses.
3. Replacing the obsolete lab computers is a priority, as students should be able to use the latest hardware and software. If ITS withdraws its support of the CIS lab, the future of the lab (and the CIS program itself) is endangered.
4. Expansion of the Internet Programming curriculum into an associate's degree would be contingent on ITS support of the csmcis2 web server. Currently ITS wants to discontinue use of the csmcis2 web server located in the CIS lab, which would effectively end the Internet Programming certificate program. This program is currently responsible for a significant percentage of total CIS enrollments.
5. SARS has been introduced in the CIS and the Computer Forensics/Networking labs so that student lab usage can be tracked, resulting in more reliable data. However, many of the Computer Forensics and Networking courses are currently being taught online so that data will be possibly insufficient.

- b. Briefly explain, specifically, how the lab's action steps relate to the Educational Master Plan.

Action step #1: The Educational Master Plan indicates that a greater proportion of students enrolling at CSM are placing at the lowest levels of mathematics and English. Tutoring services would provide significant support to students with weaker basic skills. We must find funding to pay student tutors. The College of San Mateo Educational Master Plan seeks to "Implement actions(sic) steps that improve student retention."

Action step #2: Faculty presence in the lab could also support students and, in addition, could provide coverage for the mandated hour by arrangement. The lab hour(s) could become part of the faculty FLC.

Action step #3: The CIS lab supports the CIS curriculum, as well as Architecture, Drafting Technology, Engineering, and Nursing courses. The CIS lab must have adequate hardware and software to support these programs. We must investigate all possible sources of funding to replace the obsolete lab computers. The College of San Mateo Educational Master Plan states that the college should "continue to expand the use of technology-mediated instruction throughout the curriculum as appropriate." The CIS lab is a vital component in CIS and other courses and should be equipped with functional computers.

Action step #4: The csmcis2 web server is located in the computer lab and provides support for most of the Internet Programming certificate curriculum. This program has been expanding on a yearly basis, with more courses and ever-increasing enrollment. ITS needs to provide support for this server. This comes under the jurisdiction of academic computing services, which are normally provided by all other community colleges. ITS should not be allowed to withdraw support of this server. Without administrative support of the server we cannot continue to offer an Internet Programming certificate, and cannot initiate an online associate's degree in Internet Programming. The College of San Mateo Educational Master Plan states that we should "offer courses via a variety of delivery systems, including distance education" and

should "expand the use of technology-mediated instruction as appropriate." The Educational Master Plan also states that the college should "develop a comprehensive distance education associate degree program" and "Increase distance education offerings, particularly online offerings."

Action step #5: Tracking student lab usage with SARS will facilitate planning by providing accurate data. This will be invaluable because we can identify the needs of students, as well as lab usage patterns. If we are to provide faculty and/or tutoring support then we could determine the optimal times to do so. Because we do not have continuous coverage by lab assistants we could identify times of heavy usage and schedule accordingly.

- c. Identify and explain the lab's outcomes, the measurable "mileposts" which will allow you to determine when the action steps are reached.

Action step #1: The SARS program will enable us to identify what classes students are enrolled in and will allow us to distinguish among students making use of the CIS lab. SARS will allow us to track the attendance and activities of students enrolled in particular courses such as CIS 254, as well as courses with an hour by arrangement. After we have used SARS to measure our student population for a semester, we will be able to schedule tutoring services at times most heavily used by students most in need of tutoring.

Action step #2: SARS will also allow us to measure student enrollment in other courses to determine when it would be most advantageous to have faculty scheduled in the lab to help students and to monitor the hour by arrangement.

Action step #3: We must find a source of funding to replace the obsolete computers in the CIS lab. The lab serves many departments and is open to all students.

Action step #4: ITS must support the csmcis2 web server located in the CIS lab. The web server supports the Internet Programming curriculum. We cannot expand this online curriculum and institute a degree program until we have a guarantee of support for the web server.

Action step #5: The SARS system was implemented in both labs in Fall 2009.

VII. SUMMARY OF RESOURCES NEEDED TO REACH LAB ACTION STEPS (*Data Resources: "Student Self-Assessment and Satisfaction Survey"; other lab surveys; "Student Profile Data for Labs, Spring 2009"; "Educational Master Plan, 2008"; "2008-2013 College of San Mateo Strategic Plan" – see website at http://www.smccd.net/accounts/csmresearch/prie/institutional_documents.html ; student success data from departmental "Core Program and Student Success Indicators" – see website at http://www.smccd.net/accounts/csmresearch/prie/program_review.html ; previous Program Review and Planning reports; department records; other environmental scan data.)*

- a. In the matrices below, itemize the resources needed to reach lab action steps and describe the expected outcomes for program improvement.* Specifically, describe the potential outcomes of receiving these resources and the programmatic impact if the requested resources cannot be granted.

*Note: Whenever possible, requests should stem from assessment of SLOs and the resulting lab changes or plans. Ideally, SLOs are assessed, the assessments lead to planning, and the resources requested link directly to those plans.

Faculty Time Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving lab action steps based on SLO assessment.
2-6 hours/week in CIS lab	<p>Faculty lab coverage would support students and would allow supervision of the hour by arrangement mandated by many courses. The hours could become part of the faculty FLC.</p> <p>If not granted, the hour by arrangement could be removed from course outlines if it is not possible to provide supervision. If student tutors are available then this would not be so much of a problem.</p>	SLOs for CIS 254 have indicated a need for tutoring or some type of drop-in help for intro programming students.

Classified Positions Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving lab action steps based on SLO assessment.
<p>Funding for drop-in and scheduled tutoring services in the CIS lab</p> <p>Student Assistant Salary Level D (Technical) Payrate: 13.25 – 14.25/hr A minimum of 10-15 hours/week would be scheduled.</p> <p>The overflow area of the CIS lab would be sufficient for tutoring.</p>	<p>Better retention in CIS courses, especially the intro programming course. Most CSM labs offer tutoring services with measurable results. Students have asked for many years why we do not provide tutoring services that are available in other campus labs and at other colleges.</p> <p>If no tutoring will be provided, the status quo will persist. Students with weak math and logic skills will either drop out or will remain in their courses and not succeed. An increasing number of high school graduates are ill-prepared for basic college work. Most students are unable to pay for private tutoring.</p>	<p>SLOs for CIS 254 have indicated a need for tutoring or some type of drop-in help for intro programming students.</p> <p>Many other CIS students have expressed a desire for scheduled and drop-in tutoring services.</p>

- b. For instructional resources including equipment and materials, please list the exact items you want to acquire and the total costs, including tax, shipping, and handling. Include items used for instruction (such as computers, furniture for labs and centers) and all materials designed for use by students and instructors as a learning resource (such as lab equipment, books, CDs, technology-based materials, educational software, tests, non-printed materials). Add rows to the tables as necessary. If you have questions as to the specificity required, please consult with your division dean. Please list by priority.

Resources Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving lab action steps based on SLO assessment.
<p>Item: Studio One 19 Computer Charcoal trim with webcam, Genuine Windows Vista® Home Basic 32Bit SP1</p> <p>Number: 47</p> <p>Vendor: Dell Online Store</p> <p>Unit price: \$1,287.00</p> <p>Total Cost: \$64,940.73</p> <p>Status*: Replacement</p> <p>Quote expires September 26, 2009</p>	<p>If granted we can continue operating the CIS lab and offer the latest hardware and software to students.</p> <p>If not granted, existing lab computers are obsolete, out of warranty, and will no longer be supported by ITS because they are more than 5 years old. This means that as they deteriorate they will not be serviced or replaced, endangering the existence of the CIS lab and program, as well as other courses that rely on the lab.</p>	<p>The existence of the CIS lab encompasses all lab SLOs as well as course-level SLOs. None can be achieved if there is no lab.</p>
<p>Administrative support for the existing csmcis2 web server located in the CIS lab, including software upgrades. All software on this Linux server is no-cost, open-source software.</p>	<p>If granted, continuation and expansion of the online Internet Programming certificate curriculum and creation of an online associate's degree in Internet Programming.</p> <p>If not granted, it would not be possible to continue offering this online program, and no degree would be possible. Most of these courses rely on a web server. The CIS department would lose a highly significant number of students, who would be forced to seek similar courses at other institutions.</p>	<p>SLOs for Internet Programming courses cannot be achieved without support of the csmcis2 web server. Currently SLOs in some Internet Programming courses cannot be met because of draconian security policies implemented on the csmcis2 server by ITS.</p>

* Status = New, Upgrade, Replacement, Maintenance or Repair.

VIII. **Course Outlines – for labs that are discrete courses** (Data Resources: department records; Committee On Instruction website – <http://www.smccd.net/accounts/csmcoi> ; Office of the Vice President of Instruction; Division Dean)

- a. If applicable to the lab, list by course number (e.g. CHEM 210) all department or program courses included in the most recent college catalog, the date of the current Course Outline for each course, and the due date of each course's next update.

Course Number	Last Updated	Six-year Update Due
CIS110	4/2004	4/2010
CIS111	1/2007	1/2013
CIS125	2/2008	2/2014
CIS151	1/2007	1/2013
CIS254	12/2007	12/2013
CIS255	3/2003	3/2009
CIS256	12/2005	12/2011
CIS278	3/2003	3/2009
CIS279	12/2005	12/2011
CIS362	4/2007	4/2011
CIS312	3/2002	3/2008
CIS313	3/2002	3/2008
CIS377	12/2004	12/2010
CIS379	11/2002	11/2008
CIS380	4/2007	12/2009
CIS479	1/2007	1/2013
CIS390	12/2004	12/2010
CIS488	11/2003	11/2009
CIS489	1/2007	1/2013
CIS490	1/2007	1/2013
CIS491	3/2007	3/2013
CIS492	1/2007	1/2013

Upon its completion, please email this Program Review of Labs and Centers report to the Vice President of Instruction, the appropriate division dean, and the CSM Academic Senate President.

Date of evaluation: August 31, 2009

Please list the department's Program Review of Labs and Centers report team:

Primary program contact person: Melissa Green
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Part-time faculty:

Administrators: Kathleen Ross

Classified staff: Cory Putnam

Students:

Faculty's signatures

Date

Dean's signature

Date