

All Fields Report

Program Overview	
Program	CSIS CSIS
Does this program have a CTE component?	Yes
Academic Year	2014/2015
Review Period	6 Year
Service Areas	

Program Description and Goals
<p><i>This section addresses the big picture. Prompts should help you describe your program and goals and the relationship to the institutional mission, vision and goals, and how the program is funded.</i></p>
<p>1. Describe the program and/or service area under review and how the program supports the mission of Santa Monica College.</p>
<p>The Computer Science & Information Systems Department (CSIS) offers three programs: Computer Information Systems (CIS), Computer Science (CS) and Office Technology (OFTECH). These programs offer courses that encompass a wide variety of topics, such as enabling computer technology software to improve workplace productivity, utilizing programming languages to produce custom designed software, developing websites with database applications to create custom Internet content, and developing mobile apps.</p> <p>Our department's mission is "to provide an exceptional learning environment in which students can develop the skills and knowledge required for today's technology-oriented jobs and/or fulfillment of the requirements for transfer to four year colleges and universities." This aligns directly with Santa Monica College's mission of creating a learning environment that both challenges students and supports them in achieving their educational goals.</p> <p>The Computer Science & Information Systems Department offers the 10 Certificates of Achievement listed below:</p> <p>Computer Information Systems Program</p> <ul style="list-style-type: none"> ● Computer Business Applications ● Website Software Specialist <p>Computer Science Program</p> <ul style="list-style-type: none"> ● Computer Science ● Computer Programming ● Database Applications Developer ● Web Programmer <p>Office Technology Program</p> <ul style="list-style-type: none"> ● General Office ● Legal Administrative Assistant ● Medical Administrative Assistant ● Medical Coding and Billing Specialist <p>Students may expand any of the certificates listed above into an Associate in Science (A.S.) degree by taking the required general education units and recommended courses from the certificate areas.</p>

The Department also offers 12 Department certificates, which are designed to enhance our vocational offerings and provide our students with the knowledge needed to polish their skills for the workplace:

Computer Information Systems Program

- Digital Publishing
- Website Creator
- Website Development Management

Computer Science Program

- Computer Programming
- Information Systems Management
- Networking
- Mobile Apps Development – Android
- Mobile Apps Development - iPhone

Office Technology Program

- Clerical/Data Entry
- Medical Coding/Billing
- Medical Records Clerk/Receptionist
- Medical Transcription

The CIS program offers courses and certificates that lead to careers such as Webmaster, Web Designer, Digital Publishing Specialist, Project Manager, and Graphic Designer, while the CS program offers courses that lead to careers such as Network Administrator, Programmer, Database Administrator, Software Engineer, and Mobile Apps Developer. Finally, the OFTECH program offers courses and certificates that lead to careers such as Medical Billing and Coding Specialist, Medical Transcriptionist, Administrative Assistant, Legal Administrative Assistant, and Medical Records Clerk/Receptionist.

The Department consists of 12 full-time faculty and 33 part-time faculty. Excluding internship and independent study courses, the Department lists 110 different courses in the catalog.

See Appendix A-1 for a list of all department courses, Appendix A-2 for faculty listing, full-time and part-time and Appendices A-3, A-4, and A-5 for a list of certificates by discipline.

2. Identify the overarching goal(s) or charge/responsibilities of the program or service area. If appropriate, include ensuring/monitoring compliance with state, federal or other mandates.

The Department goals are:

- Provide an exceptional learning environment in which students can develop the skills and knowledge required for today's technology-oriented jobs and/or fulfillment of the requirements for transfer to four-year colleges and universities.
- Provide students with leading technology skills, as we constantly update courses with the latest versions of software to give students a competitive edge in the job market. In addition, we strive to offer the public leading edge technology and technology training.
- Value experience in the workplace and ensure that our students learn in a hands-on environment so they gain experience as they learn. We offer on-campus, online, and hybrid classes, as well as faculty supervised self-study opportunities.
- Continue to create new courses and certificates in areas that the job market requires, which typically include the latest technologies in hardware and software.

3. If applicable, describe how the Institutional Learning Outcomes (ILOs), Supporting Goals, and/or Strategic Initiatives of the institution are integrated into the goals of the program or service area.

The CSIS department's goals are aligned with Santa Monica College's Institutional Learning Outcomes (ILOs) as illustrated below:

- Provide an exceptional learning environment in which students can develop the skills and knowledge required for today's technology-oriented jobs and/or fulfillment of the requirements for transfer to four-year colleges and universities. (Personal Attributes, ILO 1, Analytic and Communicational Skill, ILO 2, Applied Social Knowledge Values, ILO 3, Applied Knowledge and Valuation of the Physical World, ILO 4, Authentic Engagement, ILO 5).
- Provide students with leading technology skills, as we constantly update courses with the latest versions of software to give students a competitive edge in the job market. In addition, we strive to offer the public leading edge technology and technology training. (Analytic and Communicational Skill, ILO 2, Applied Knowledge and Valuation of the Physical World, ILO 4, Authentic Engagement, ILO 5).
- Value experience in the workplace and ensure that our students learn in a hands-on environment so they gain experience as they learn. We offer on-campus, online, and hybrid classes, as well as faculty supervised self-study opportunities. (Personal Attributes, ILO 1, Analytic and Communicational Skill, ILO 2, Applied Social Knowledge Values, ILO 3, Applied Knowledge and Valuation of the Physical World, ILO 4, Authentic Engagement, ILO 5).
- Continue to create new courses and certificates in areas that the job market requires, which typically include the latest technologies in hardware and software. (Personal Attributes, ILO 1, Analytic and Communicational Skill, ILO 2, Applied Knowledge and Valuation of the Physical World, ILO 4, Authentic Engagement, ILO 5).

4. If your program receives operating funding from any source other than District funds identify the funding source. If applicable, note the start and end dates of the funding (generally a grant), the percentage of the program budget supported by non-District funding, and list any staff positions funded wholly or in part by non-District funds. Do not include awards for non-operational items such as equipment (ex. VTEA) or value added activities (ex Margin of Excellence).

The CSIS department does not receive any non-District operating funding.

Populations Served

In this section you will provide information that describes who your program or service area serves. When comparing data from different periods, use a consistent time frame (ex. Compare one fall term to another fall term)

Saved Information For Populations Served

Area/Discipline Information Pertains To

All Disciplines (answered once)

1. Describe your students in terms of ethnicity, race, gender, age, residency status, citizenship, educational goal, enrollment status, and full/part-time status. Note any changes in student or enrollment data since the last six-year program review and the possible reasons for the changes.

Gender: The following is a comparison of gender:

Gender	2009	2013	% Change
Female	41.3%	35.5%	-5.8%

Male	58.7%	64.7%	+6%
Total Students	2828	2593	-8.3%

We realize that we have a gender gap, and in fall 2014 we have applied to the Equity grant to address it. See Appendix B-1 for our proposal. Unfortunately, our proposal was not accepted. We hope to continue working with the Equity project to understand more about that project so we can address this issue.

Age: The following is a percentage comparison of age groups:

Age Group	2009	2013	Change
19 or younger	22.6	20.7	-1.9
20 to 24	33.1	39.5	6.4
25 to 29	16.8	15.5	-1.3
30-39	13.9	13.8	-0.1
40 to 49	7.9	5.5	-2.4
50 or older	5.7	5.0	-0.7

The age groups did not change much except for the 6.4% increase in the 20-24 age group. This may reflect that more students are starting their education in our department one or two years after graduating high school.

Ethnicity/Race: The following is a percentage comparison of age groups:

Ethnicity/Race	2009	2013	Change
Asian	24.7	16.5	-8.2
African Am.	11.1	11.3	0.2
Hispanic	24.5	30.4	5.9
White	29.2	26.5	-2.7

Hispanic students have increased by almost 6% coupled with the loss of Asian students by about 8%.

To address the low percentage of students in the African-American ethnicity, we have applied for the Equity grant in fall 2014 as indicated above.

Residency Status: The following table shows there is no considerable percentage change in this population.

Residency	2009	2013
Californian	80.5	80.5
Out of State	5.2	5.1
Foreign	14	14.3

Enrollment Status: The following table shows that while all Enrollment Status did not change considerably, the number of continuing students increased by more than 8%.

Enrollment	2009	2013	Change
First-time	17.1	13.5	-3.6
First-time Transfer	16.7	13.7	-3
Returning	14.3	12.1	-2.2
Continuing	51.7	60.5	8.8

Educational Goal:

Goals	2009	2013	Change
Transfer	58.4	68.4	10
AA Degree	7.9	9.0	1.1
Certificate	2.1	3.1	1

The only significant change is in the goals of students to transfer, which increased by 10%. We believe that our CIPAIR II (2010-2013) grant, which focused on encouraging students to pursue STEM careers aiming for graduate studies, may explain the 10% increase of

students with a goal to transfer to a 4-year degree.

Full/Part-time Status: There is no percentage change in this population

Full/Part time	2009	2013	Change
Part-time	57.6	58.3	0.7
Full-time	42.2	41.7	-0.5

Please see Appendix B-2, pages 3 - 10 the IR report.

2. Compare your student population with the college demographic. Are your students different from the college population?

Gender: Our student population has a larger percentage of male to female students when compared to the campus as a whole, as is the trend in STEM fields.

Gender	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS – SMC 13
Female	41.3%	35.5%	55.2	52.3	-17%
Male	58.7%	64.7%	44.8	47.7	+17%

Age: The following is a percentage comparison of age groups:

Age Group	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS – SMC 13
19 or younger	22.6	20.7	31.7	30.5	-9.8
20 to 24	33.1	39.5	34.3	41.7	-2.2
25 to 29	16.8	15.5	14.2	12.4	3.1
30-39	13.9	13.8	11.1	8.9	4.9
40 to 49	7.9	5.5	5.5	3.6	1.9
50 or older	5.7	5.0	5.0	3.0	2

Students in the CSIS program tend to be older than the average Santa Monica College students.

Ethnicity/Race: The following is a percentage comparison of Ethnicity/Race:

Ethnicity/Race	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS-SMC 13
Asian	24.7	16.5	18.7	13.8	2.7
African Am	11.1	11.3	10.5	9.2	2.1
Hispanic	24.5	30.4	28.6	37.4	-7
Native Am	0.7	0.3	0.3	0.2	0.1
White	29.2	26.5	32.2	26.6	-0.1
Multi-Race	1.6	3.5	1.6	3.9	-0.4
Unreported	8.2	11.5	8.0	8.9	2.6

Based on the above data, there appears to be no significant difference in the racial composition of the CSIS department and the college at-large except for minor lower percentage in the Hispanic ethnicity. As noted before we applied for funding through the Equity grant to address low percentages of students in both the African American and Hispanic ethnicities.

Residency Status: The residency status in the CSIS program and Santa Monica College is approximately the same with the exception of slightly higher numbers of students from foreign countries in the CSIS program.

Status	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS-SMC 13
Californian	80.5	80.5	84.4	82.6	-2.1
Out of State	5.2	5.1	6.5	6.3	-1.2
Foreign	14	14.3	9.1	11.2	3.1

Enrollment Status: Enrollment status percentages are as follows:

Status	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS – SMC 13
First time	17.1	13.5	21.4	19.5	-6

1st time Transfer	16.7	13.7	15.8	11.2	2.5
Returning	14.3	12.1	11.7	10.2	1.9
Continuing	51.7	60.5	50	58.4	2.1

As noted from the table, our first-time students are 6% less than that of the College, which may also be affected by the fact that the 19-years or younger of the department category is about 10% less than that of the College.

Educational Goal: In 2013, our department had 6% less first-time students than the College at large, otherwise our percentages are similar to the College.

Goals	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS – SMC 13
Transfer	58.4	68.4	63.3	74	-5.6
AA Degree	7.4	9.0	4.9	6.5	2.5
Certificate	2.1	3.1	1.5	1.5	1.6
Educational Dev.	6.2	3	7.8	4.4	-1.4
Undecided	7.5	4.2	7.5	4.5	-0.3

Although when compared to the College, our transfer rates are about 6% lower, however, we were able to increase our transfer rates by 10% over a 5-year period. Also, our percentages for the AA degree are 2.5% higher than the college, and for certificates, our percentage is more than double that of the college.

Educational Status: The percentage breakdown for educational status is as follows:

Category	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS-SMC 13
Not high school grad.	2.4	1.7	3.6	1.9	-0.2
High school grad or equivalent	74.4	79.2	79.3	85	-0.1
Associate's degree	3.8	3.4	3.1	2.7	0.7

Bachelor's degree or higher	19.3	15.6	14	9.8	5.8
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The CSIS department has 6% more students higher with a bachelors' degrees than the College.

Part/Full Time Status: The following percentages shows that the CSIS department has a higher number of full-time students than does the College.

Category	CSIS 09	CSIS 13	SMC 09	SMC 13	CSIS-SMC 13
Full-time	42.4	41.7	35.5	35.7	6
Part-time	57.6	58.3	64.5	64.3	-6

Please see Appendix B-2, pages 3 - 10 the IR report.

3. What percentage of students in your program place in basic skills and, if applicable, how does this impact your program goals and/or curriculum.

In the fall of 2009 11.3% of students in the CSIS department were identified as basic skills students and in the fall of 2013 13.1% were in this category. In fall of 2013 the College-wide percentage of basic skill students was 19.2%. Our department percentage is lower. We believe it is due to a higher percentage of our students are older and already received a degree.

The lowest percentage of basic skills students is in the Computer Science program (8.6%). The highest percentage of basic skills students is in the Office Technology program (22.6%), while Computer Information Systems is at (14.9%).

Please see Appendix B-2, pages 9 - 10 the IR report.

Program Evaluation

In this section programs/units are to identify how, using what tools, and when program evaluation takes place. Evaluation must include outcomes assessment as well as any other measures used by the program. Please use Section D to address program responses to the findings described in this section.

Programs/units with multiple disciplines or functions may choose to answer the following questions for each area. If this is your preferred method of responding, begin by selecting a discipline/function from the drop down, answer the set of questions and click "Save", your answers will be added to the bottom of page. Do this for each discipline/function. If you would like to answer the questions once, choose "Answer Once" from the drop down.

How would you like to answer these questions?

Saved Information For Program Evaluation

Area/Discipline Information Pertains To

All Disciplines (answered once)

1. List the specific SLOs your program or discipline has chosen to focus on this year for discussion of program improvement.

SLOs are specific, measurable statements of 'what a student should know, be able to do, or value when they complete a course'. An SLO focuses on specific knowledge, attitudes, or behaviors that students will demonstrate or possess as a

result of instruction.

As part of this six-year program review process, the CSIS department has chosen to focus on all of the department and program level SLOs for discussion of program improvement. This approach works well because all of our course level SLOs are aligned with one or more of our department and program level SLOs.

Department Level SLOs are:

- Students will use computer knowledge to complete ethical activities and communications in both professional and personal environments.
- Students will acquire the computer skills necessary to function effectively in today's social and professional environments on a global scale.
- Students will demonstrate communication techniques that will be effective in connecting diverse peoples and cultures.
- Students will understand the impact and scope of technology on using environmental resources responsibly.
- Students will demonstrate a level of engagement in their technological knowledge that enables and motivates the integration of their computer skills to improve daily business operations and personal computer-related tasks.

CIS Program SLOs are:

- Students will improve and develop professional and personal communication skills by utilizing knowledge of computer software in word processing, spreadsheet development, database design, graphic design, presentation development, schedule organization, and web design.
- Students will demonstrate the ability to use various software applications to develop, analyze, and maintain websites, business reports, spreadsheets, and presentations used in industry.

CS Program SLOs are:

- Students will develop software in a variety of programming languages, manage projects, analyze systems, and develop mobile and web applications.
- Utilize networks and computer hardware.
- Create and manipulate data structures and databases.

OFTECH Program SLOs are:

- Using skills in Microsoft Office software, keyboarding, and English language principles, the student will create and revise commonly used business documents.
- Given transaction data, the student will perform basic bookkeeping/accounting tasks, such as classifying, recording, and preparing financial documents.

2. Describe how the program assesses SLOs and uses the results for program improvement including:

- **how outcomes are assessed and how often**
 - **how and when the program or discipline reviews the results and engages program/discipline faculty in the process**
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Faculty assess course level SLOs every fall and spring semesters. A reminder on conducting SLO assessments is sent to all faculty by the Department Chair at the beginning of each semester and a second reminder to submit SLO data to the College, along with final grades is sent at the end of the semester.

Faculty typically use course assessments (projects, quizzes, exams, assignments) to determine whether a student has met or has not met the standard of a specific SLO.

Each semester, faculty include course SLOs on their course syllabi so the SLO's are shared with their students. The Department Chair requests copies of syllabi from all faculty from each course section they teach. As part of this program review cycle, each course outline of record in Curricunet has been reviewed to ensure that it includes updated SLO information.

SLOs have also been important to the Department in making decisions to improve students' success. For example, in CIS 1 and CIS 4 while reviewing SLO assessments faculty determined several strategies to improve student performance. Some examples include: increased team projects, further implementation of real-world applications, deeper communication between instructor and students. Below is a comparison in percentage of the fall 2011 to the 2013 increase in SLO mastery:

Course	Fall 2011	Fall 2012	Fall 2013
CIS 1	76.5	84.3	83.3
CIS 4	77.3	89.8	91.4

Please see Appendix C-1 for SLO assessments.

3. If your program or discipline issues a degree or certificate list each degree or certificate and the core competencies students are expected to achieve on completion.

Core competencies focus on the body of knowledge, attitudes, and behaviors a student will have acquired upon completion of a program or certificate and are assessed by either a capstone course or success rates on SLOs for core courses.

The following is a list of the core competencies for the CSIS Department's Certificates of Achievement and Departmental Certificates. Note that all Certificates of Achievement may be used as a major for an Associate of Science degree.

Computer Information Systems Program

- *Computer Business Applications Certificate of Achievement and AS Degree – 27 units*

Upon completion of this certificate, students will analyze different types of business information and use the Internet to support findings.

- *Website Software Specialist Certificate of Achievement and AS Degree – 34 units*

Upon completion of this certificate, students will learn a variety of Internet technologies and Web authoring tools for Website development and maintenance.

- *Digital Publishing Department Certificate – 17 units*

Upon completion of this certificate, students will learn specific skills that make them job ready for the publishing industry, whether it is for printing or for the web.

- *Website Creator Department Certificate – 15 units*

Upon completion of this certificate, students will learn the skills necessary to create websites.

- *Website Development Management Department Certificate – 13 units*

Upon completion of this certificate, students will learn the skills needed to develop and plan website projects from design through construction to rollout and maintenance.

Computer Science Program

- *Computer Science Certificate of Achievement and AS Degree – 34 units*

Upon completion of this certificate, students will be able to manage projects, analyze systems, develop software, and program in a variety of computer languages.

- *Computer Programming Certificate of Achievement and AS Degree – 27-29 units*

Upon completion of this certificate, students will be able to design, code, test and debug computer programs.

- *Database Applications Developer Certificate of Achievement and AS Degree – 33 units*

Upon completion of this certificate, students will be able to develop user-friendly interfaces that extract data stored in databases and incorporate different security techniques in their applications.

- *Web Programmer Certificate of Achievement and AS Degree – 30 units*

Upon completion of this certificate, students will be able to design and develop applications and scripts for the World Wide Web and provide the programming which makes Web pages interactive and interact with back-end applications and databases.

- *Computer Programming Department Certificate – 12 units*

Upon completion of this certificate, students will learn to program computers in a variety of different popular programming languages.

- *Information Systems Management Department Certificate – 13 units*

Upon completion of this certificate, students will learn how to develop applications and apply the skills needed to plan and budget resources in development projects from conceptual design to deployment.

- *Mobile Apps Development Department Certificate – 15 units*

Upon completion of this certificate, students will learn how to design and write mobile apps for either the Android or iPhone platform.

- *Networking Department Certificate – 17 units*

Upon completion of this certificate, students will understand various networking protocols and interfaces and be able to properly configure them for use and understand the inherent security risks resulting from the broader networked world.

Office Technology Program

- *General Office Certificate of Achievement and AS Degree – 30-32 units*

Upon completion of this certificate, students will be able to use the Microsoft Office suite to input and proofread various kinds of office documents.

- *Legal Administrative Assistant Certificate of Achievement and AS Degree – 30 units*

Upon completion of this certificate, students will be prepared for employment in a legal environment.

- *Medical Administrative Assistant Certificate of Achievement and AS Degree – 36 units*

Upon completion of this certificate, students will be prepared for employment in a medical environment.

- *Medical Coding and Billing Specialist Certificate of Achievement and AS Degree – 36-37 units*

Upon completion of this certificate, students will be prepared to properly code and bill various kinds of medical procedures.

- *Clerical/Data Entry Department Certificate – 12 units*

Upon completion of this certificate, students will be able to use the Microsoft Office suite to input and proofread various kinds of office documents.

- *Medical Billing/Coding Department Certificate – 15 units*

Upon completion of this certificate, students will be prepared to properly code and bill various kinds of medical procedures.

- *Medical Records Clerk/Receptionist Department Certificate – 15 units*

Upon completion of this certificate, students will be able to organize and retrieve patient records and have knowledge of appropriate telephone skills and face-to-face communication skills.

- *Medical Transcription Department Certificate – 15 units*

Upon completion of this certificate, students will be able to prepare various kinds of medical documents and utilize a variety of reference resources.

4. What other evaluation measures does your program or discipline use to inform planning? (For example, student surveys, enrollment trends, student success, retention, degrees/certificates awarded, job placement, transfer rates, TIMS report, tutor usage etc.) Note trends and differences in performance by group (ethnicity, gender, age) or enrollment type (day/evening, on-ground/on-line).

Our discipline uses a variety of measures to evaluate its effectiveness. We regularly review enrollment, success and retention rates, degrees and certificates, student survey data and advisory board recommendations as part of the program evaluation process.

CSIS Student Survey

Our department administers a student survey each spring to solicit feedback and suggestions from our students. During the spring 2014 Departmental Flex Day, faculty revised and updated the survey questions so that the results could be better assessed. See

Appendix C-2 for the 2014 student survey results. This survey had 874 responses from students taking on campus and online classes spanning our three disciplines. Because this is a new instrument we cannot compare results with previous surveys but spring 2014 results will stand as a base line for future comparisons.

The survey did provide the following statistics that are useful in program planning:

- 429 (49.37%) students responded that they would use the computer lab if re-opened on Sundays.
- Although only 2.75% reported not having a home computer, 74.10% reported using the computer lab. We feel this is due to the availability of tutoring in the lab, the need for current software versions, the expense of new software, and student convenience.
- 21.86% of students took advantage of the DreamSpark free software service the Department provides.
- 18.41% of students took advantage of CSIS tutoring.
- The survey also allows us to track trends in operating system usage. For example, while the largest number of students were using Windows 7 (52.81%) we saw a growing number of students using Windows 8 (32.19%) and the Mac OS (15.12%).

Enrollment Trends

In the CIS discipline there has been a slight decline in the overall number of sections over the past six year period – 64 sections in fall 2009 versus 62 sections in fall 2013. Total course enrollments of 1525 in fall 2013 have decreased from the level of Fall 2009 which was 1723. This level of decline is of concern and we will address and investigate this matter.

In the CS program there has been very little growth in the overall number of sections over the past six year period – 42 sections in fall 2009 versus 45 sections in fall 2013. Total course enrollments of 1390 in fall 2013 have increased slightly from the level of fall 2009 which was 1315. It shows that CS enrollments are gradually improving.

Office Technology saw a slight decline in the overall number of sections over the past six year period – 22 sections in fall 2009 versus 18 sections in fall 2013. Total course enrollments have also fallen over this period – from 349 in fall 2009 to 246 in fall 2013. This level of decline is of concern and we will address and investigate this matter.

Student Success

The overall CSIS department successful course completion rates improved greater than the College-wide course completion rates, with the CSIS department improving 3.8% from 66.4% in 2009 to 70.2% in 2013 while SMC went up 1.4% from 66.7% in 2009 to 68.1% in 2013.

The improved successful course completion rates for the CSIS department could be attributed to instructors being provided the statistical results of their class retention and completion rates every semester. This awareness enabled the faculty to adjust their teaching methods to improve students' understanding and ability to complete courses successfully.

Course Completion By Discipline: From fall 2009 to fall 2013 successful course completion rates have increased overall in the CSIS department by discipline, time of day, and course delivery types (online vs. on ground). By discipline, the Computer Information Systems (CIS) group improved slightly by 0.8% from 69% to 69.8%; the Computer Science (CS) group improved significantly, gaining 6.7%, going from 63.4% to 70.1%; and Office Technology (OFTECH) showed good improvement, rising 6.3% from 64.8% to 71.1%.

Enrollment Type (time of day and online/on ground): The completion rates by time of day indicate that our day, evening, and weekend classes have increased from fall 2009 to fall 2013. Day classes increased by 2.0%, evening classes increased by 1.4% and weekend classes had a tremendous increase of 28.0% with the 2013 numbers ending at 70.2% for day, 69.3% for evening, and 79.3% for weekend classes.

Online vs On-ground: Course completion for online classes improved with a 4% increase from 65.7% in 2009 to 69.7% in 2013. The on-ground class completion rate improved with a 3.6% increase from 66.9% to 70.5% during this period.

Gender, Ethnicity and Age Group: The female population completion rates improved 5.5% from 68.3% to 73.8%, while the male population improved 3.2% from 65.1% to 68.3% over this time.

Most ethnicity groups had improved course completion rates with the exception of Black and Native American. Asian/PI increased 6% (76.3% to 82.3%); Black declined 5.4% (50.9% to 45.5%); Hispanic increased 1.6% (60.9% to 62.5%); Native American decreased 5.3% (59.1% to 53.8%); White increased 7.3% (70.6% to 77.9%); Multi-Races increased 6.6% (55.4% to 62.0%), and the Unreported increased 21.8% (60.4% to 82.2%).

Age groups: Each category of age groups saw an increase in successful completion rates except for 50 or Older population. The greatest increase was seen in the 19 and Younger age group with an increase of 9.9% (61.3% to 71.2%); the four age groups ranging from 20 to 24 through 40 to 49 all showed increases of approximately 3%. The 50 or Older age group declined by 7.4% (66.8% to 59.4%). This decline is unexpected especially given the previous year the success rate was 73% for this age group. The Department is eager to see upcoming statistics for fall 2014 to see if this decline is an anomaly or a trend that needs further review.

Retention

Similar to the improved successful course completion rates, course retention rates for the CSIS department rose by 2.1% from 80.5% in fall 2009 to 82.6% in fall 2013.

Within the CIS discipline, course retention has fluctuated up and down over the past six years, essentially within the college-wide average each year (83.7% in fall 2009 to 82.3% in fall 2013). The CIS discipline regularly meets to discuss different ways to improve retention including revising teaching methods, intervention for at-risk students and increasing departmental resources such as tutoring.

The CS course retention rate has improved from 76.1% in fall 2009 to 82.2% in fall 2013 bringing the CS discipline within the college-wide rate of 83.3. We attribute much of this improvement to our tutoring program. The College supports our department with a tutoring coordinator position shared with the Business department that schedules tutoring in the CSIS Computer Lab throughout the academic year.

Our Office Technology discipline has always had a high retention rate and is very proud of this level of accomplishment. The OFTECH discipline's retention rate has improved from 80.8% in fall 2009 to 87.0% in fall 2013. This level of retention is now significantly higher than the institution overall.

Unfortunately, for the past 3 years the CSIS Computer Lab is no longer open on Sundays. Students miss the opportunity to utilize this resource that greatly contributes to class retention. The Department is concerned that students who would most benefit are those without their own computing resources. Therefore those students cannot complete assignments, get help and keep up with course content and hence contribute to lower class retention.

We would like to address this issue by adding more questions to our survey to confirm that indeed this student population (those needing the lab on Sundays) is the one who is more at risk. We would like to work with IR to potentially add a question in the Department student survey.

TIMS

TIMS data and reports from Academic Affairs are used to identify which faculty have retention rates falling below the department average for fall and spring semesters. The Department Chair sends the faculty a notice of their below-average retention rates along with suggestions for how to improve them. During the Peer Evaluation process and the Professionalism portion completed by the Chair, there is an opportunity to further discuss this issue with faculty and provide additional feedback and coaching that may be beneficial in retaining students.

Degrees and Certificates:

The overall number of degrees and certificates awarded increased from the academic year 2009-2010 (32 awards) to the academic year 2013-2014 (45 awards). These awards include Associate degrees, Certificates of Achievement and Departmental certificates. See Appendix C-3 for the CSIS Degrees and Certificates Awarded.

In the area of Associate degrees there was no significant change. 16 Associate degrees were awarded in the academic year 2009-2010 and 15 degrees were awarded in the academic year 2013-2014. However, the number of Certificates of Achievement awarded increased from a total of 3 to 9 over the same period.

In addition to the Certificates of Achievement, the Department offers several department level certificates. In 2009-2010, the Department awarded the total of 13 certificates, whereas in 2013-2014 this number was increased to 21. While this is a 61.5% increase, the Department plans to continue its marketing of these certificates because the overall totals are not representative of the number of students satisfying the certificate requirements.

Transfer Rates

Appendix C-4 contains the CSIS department transfer data. It was taken from the California Community Colleges Chancellor's Office "Data on Demand" website. Only students with valid Social Security Numbers are identified, therefore the overall transfer counts may be underreported.

Although, the information shows data for students completed at least 6 units in a discipline, we have decided to focus on students that completed at least 12 units because this is a better representation of students who majored in one of our three programs.

In the CIS program there was a decline from 14 students in 2009-2010 to 8 students in 2013-2014. In the CS program there was an increase from 36 students in 2009-2010 to 40 students in 2013-2014. In the OFTECH program there was an increase from 0 student in 2009-2010 to 1 student in 2013-2014.

It is noteworthy to mention the CIS and OFTECH are mostly CTE programs and CS is both CTE and transfer program.

Tutoring

The data collected on the CSIS tutoring lab began in summer 2010 as we implemented an automated system to keep track of students who visited the tutoring lab. The data in Appendix C-5 shows data collected from fall 2010 to spring 2014.

Institutional Research tracked tutoring visits for specific students over many semesters and was able to correlate these visits to the courses in which these students were enrolled in. While not every student visiting the tutoring lab specified a course for which they were seeking assistance, this data shows the magnitude of the need and breadth of the CSIS tutoring services provided by the tutoring program.

Appendix C-5 demonstrates the importance of the CSIS tutoring lab, as it shows the improved success rates of those students who utilize the CSIS tutoring lab. Although the number of students utilizing tutoring is still much smaller than those who do not, it is clear that tutoring has a positive impact on student success. Whereas 5,527 students who never utilized the tutoring lab did not succeed (30.9%), only 183 students who used the tutoring services did not succeed (16.8%).

The research further demonstrates the importance of the CSIS tutoring lab, as it shows the improved retention rates of those students who utilize this service. Whereas 3,213 students who never utilized the tutoring lab were not retained (18%), only 81 students who used the tutoring services were not retained (7.4%). This is a 92.6% retention for students who went to tutoring.

Because of this positive impact on success and retention rates of students participating in tutoring versus those who do not, the Department will continue to bring tutoring services to students for using the tutoring lab by putting tutoring information in the syllabi, advertising in classes, and reminding students the impact of using tutoring services on their grades. The Department continues to work closely with the tutoring coordinator to improve the performance of students leading to their successful course completing who are using the tutoring lab.

5. If applicable, discuss achievement rates on state licensure exams.

The CSIS department does not prepare students for state licenses exams.

6. Career Technical Education (CTE) programs are required to have active industry advisory boards which meet at least once a year. (Attach minutes from each meeting since the last program review report). List advisory board membership, how often it meets, and indicate involvement with the program.

The CSIS department maintains two different Advisory Board Committees: the Computer Information Systems (CIS) and Office Technology (OFTECH) Advisory Board and the Computer Science (CS) Advisory Board. The CIS / OFTECH meetings are held every fall semester. The CS meetings are held every spring semester. Advisory Board members include those working in the industry as entrepreneurs, employees, employers and job placement agencies, as well as members from academic institutions that Santa Monica College students transfer to.

The role of each Advisory Board is to provide input on courses, certificates, curricula, job market, and job requirements. Recommendations of the Board guide modifications and additions to our programs. We also work to establish internships for our students with the members of the advisory board.

Appendix C-6 includes the fall semester CIS/OFTECH Advisory Board meeting minutes from 2009 – 2014 and the spring semester CS Advisory Board meeting minutes from 2009 – 2014. Below is the list of Advisory Board members.

CS Advisory Board Members:

Rich Alvidrez, Community College Initiatives, NASA/JPL Education Office

Tom Gerken, Panjo.com

Matt Gray, Formula Talent

Jerry Palmer, Verizon

Osman Sakr, National Technical Inc.

Chad Schmutzer, Amazon Web Services, Inc.

Masahji Stewart, Founder Synctree.inc

Cord Thomas, RAND Corporation, software architect

Aaron Singmaster-Judd, Principle, Top 20 location-based social networking tech startups

Michael Tenzer, SMC Foundation board member

Cindy Russell, UCLA Software Engineer, Geophysics and Planetary Physics

Mike Brown, MS student, CSU Long Beach

Rob Brooks, Accuvant

Brian Decal, The Mitchell Group

Matt Gray, Sometrics/American Express

Mario Obejas, Raytheon

David Razavi, Bouju

Sheridan, Allison, IT Fellow Architect for Social Media, Raytheon

Mohsen Beheshti, Chair, Computer Science, CSUDH

CIS / OFTECH Advisory Board Members:

Jerry Bernard, Graphic Designer/Technical Director, DSJ Printing, Inc.

Rob Brooks, Solutions, Architect, Secure Virtualization Accuvant

Ted Dahle, Media and Entertainment, Valley of the Dahle Digital Onion

Wayne Fernandes, Marketing & Events Manager Center on Disabilities, CSUN

Daniel Lemin, Consultant – Marketing Strategy & Innovation Social Studio

Rozalyn Lucero, Account Manager, CORESTAFF Services

Dmitri Ponomarev, Co-Founder, ChoiceFork

Christopher Seymour, Medical Billing and Coding Instructor; Healthcare Office Consultant Medical Billing and Coding

Carol Long, Acting Director of Classified Personnel - SMC

Jansen, Deborah, Personnel, LA unified school district

Owen Provence, Acorn Woods Inc.

Yvonne Delaine, Beverly Hills Bar Association

Claudia Montoya, Legal Option Group

Ana Tordilla, Medical Billing

George Baldonado, President & CEO Oasis Technology, Inc

Kevin Goldberg, Internet software & services

Jan Davis, President SuperbTech

Ann Grinnell, Velocity Medical Billing

Cheryl Bennett, Website Development Wireframe

Ola Boykin, OLA Medical Transcription, Inc.

Penelope Hunt, Absolute Employment Solutions, Inc.

Yury Furman, IT management

Kylen Berkeley, Cooking.com

Domenic Ferrante, Legal Option Group

Helen Lee, Change Management, e-HR

7. Describe any program response to advisory board recommendations. Give specific examples.

Our Advisory Boards play a critical role in maintaining the industry currency in our disciplines. The role of each Advisory Board is to provide input on courses, certificates, curricula, job market, and job requirements. Board recommendations have led to the creation of new courses, new certificates, and new hardware in our classrooms. We also work to establish internships for our students with the companies where our board members work.

The CIS/OFTECH Advisory Board meetings are held every fall semester. The CS Advisory Board meetings are held every spring semester. Advisory Board members include those working in the industry as entrepreneurs, employees, employers and job placement agencies, as well as members of the academic institutions where our students transfer.

CIS/ OFTECH Advisory Board Recommendations:

Members of the CIS/OFTECH Advisory Board have suggested ways to expand and improve our course offerings and certificate programs.

Our Web design courses stay current with industry updates and standards, implementing this recommendation in our "Website Creator" departmental certificate and "Website Software Specialist" certificates of achievement. We reviewed and updated the curricula for CIS 51 to include HTML5, CSS3, and Accessibility. We reduced the role of Adobe Flash technologies in favor of HTML5.

Two other suggestions were the addition of a social media course because of the importance of social media in today's business and the development of additional interdisciplinary certificate. The Department is now offering CIS70, Social Media Applications, and the Business department has introduced BUS 34, Social Media Marketing course. Additionally, we have made it our objective to collaborate with the Business department to explore the possibility of creating an interdisciplinary Social Media certificate.

Several Board members also emphasized the importance of WordPress in our existing Web development courses and suggested adding a new course in WordPress. In response to this suggestion, CIS 67, WordPress, was developed which is a very popular course among our Web development courses.

Members of the Board strongly emphasized the importance of cloud computing and the impact that is having on the industry. Various courses in this discipline now incorporate this information in their content, including CIS 1, CIS 4, CIS 30, CIS 35 and CIS 37A & B. In conjunction with the movement to cloud-based services, members of the board also recommended courses in computer security and ethics which have been developed in the CS discipline.

Board members cited evidence that the medical field is growing, and job markets for medical administrative assistants, medical records, and health information technicians are rapidly expanding. Therefore, courses and certificates should be developed to meet this need.

In response to this suggestion, the CSIS department developed a new course: OFTECH 28: Electronic Health Records. To stay up-to-date with the healthcare industry, updated the curriculum for the three of our OFTECH courses from ICD-9 to ICD-10 (International Classification of Diseases). These three courses are: OFTECH 24: Medical Coding & Billing 1, OFTECH 25: Medical Coding & Billing 2, and OFTECH 26: Medical Coding & Billing 3. We developed an Associate Degree and certificate of achievement in "Medical Administrative Assistant".

The CIS and OFTECH disciplines are discussing additional courses to further align our curriculum with the trends identified by the Board.

CS Advisory Board Recommendations:

Members of the CS Advisory Board have suggested ways to expand and improve our course offerings and certificate programs. Members of the Board strongly emphasized the following transformational trends in the industry: Mobile platform, Big Data/NoSQL, Ruby on Rails and, Cloud Computing. Security appeared to be one of primary concerns of the Advisory Board and it was suggested that it should be covered in every course because of the huge job market in that field. The Board has also suggested that we put a great deal of emphasis on project management. The CSIS department offers 2 courses in this field: CIS/CS 9A: Technology Project Management and CIS/CS 9B: Advanced Technology Project Management.

To meet these trends, the CS discipline has developed five courses and two departmental certificates in Mobile App area. These courses are: CS 53A, iOS Development with Objective-C, CS 53B, iOS Mobile App Development, CS 53C, iOS Advanced Mobile App Development, CS 86, Android Development, CS 83R, Server-Side Ruby Web Programming. The two departmental certificates are in Mobile App Development, one for the iPhone and one for Android tracks.

To facilitate the teaching of iOS classes, a Mac classroom has been created and Mac workstations in the Business Computer Lab were added using funding from the CTE Perkins grant. The CS discipline is discussing additional courses to further align our curriculum with the trends identified by the Board.

Objectives (Looking Back)

As part of the planning process, programs are expected to establish annual objectives that support the program's goals. Please document the status of the program/function's previous year's objectives. Add comments if you feel further explanation is needed.

1. Because this is our first annual program review the Department does not have a formal list of previous year's objectives but there are several areas that we have been working on recently. Universal accessibility continues to be promoted with captioning of online classes. In addition, testing software that has all content captioned has been incorporated into entry level CIS classes. The CSIS department is constantly updating existing courses and offering new ones, such as Android mobile apps programming and three levels of iOS mobile apps programming, as well as Matlab and Python programming, WordPress a content management platform used for blog creation as well and a Social Media Applications class. Project Management concepts are incorporated into all entry level CIS and CS courses under the NASA grant. We were also awarded the federal HIT (Health Information Technology) grant to provide online training to qualified students in the area of Health Information Technology to support the upcoming surge in job vacancies once the new federal healthcare law applies. We successfully graduated 307 students. Coordination with the SMC library insures that up-to-date course materials are available to students and updated versions of the programs we are using in our courses are provided to the Disabled Student Center. Employment and internship opportunities are developed by maintaining a relationship with Advisory board members, local businesses, and the Scholarships office and Career Center. They present their resources at each Advisory Board meeting. Advisory Board members are encouraged to hire SMC students and create internships, and we follow up with them throughout the year for employment or internship opportunities. Faculty members have also presented at the SMC Career Fair day and SMC Welcome Day to promote employment options, certificates, and degrees to students interested in CSIS related fields. Tracking retention rates and making the data available to all faculty each semester and surveying students about the CSIS program enable us to improve student success rates. See Appendix D-1 for student survey in spring 2013. Commercial virtual Exchange servers are still being used to address technical issues with offering online classes. Students must pay a fee for these virtual servers because SMC's Information Technology department has not been able to offer a technical solution.

Eliminated
Comments:

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Matlab and Python programming, WordPress a content management platform used for blog creation as well and a Social Media Applications class. Project Management concepts are incorporated into all entry level CIS and CS courses under the NASA grant. We were also awarded the federal HIT (Health Information Technology) grant to provide online training to qualified students in the area of Health Information Technology to support the upcoming surge in job vacancies once the new federal healthcare law applies. We successfully graduated 307 students. Coordination with the SMC library insures that up-to-date course materials are available to students and updated versions of the programs we are using in our courses are provided to the Disabled Student Center. Employment and internship opportunities are developed by maintaining a relationship with Advisory board members, local businesses, and the Scholarships office and Career Center. They present their resources at each Advisory Board meeting. Advisory Board members are encouraged to hire SMC students and create internships, and we follow up with them throughout the year for employment or internship opportunities. Faculty members have also presented at the SMC Career Fair day and SMC Welcome Day to promote employment options, certificates, and degrees to students interested in CSIS related fields. Tracking retention rates and making the data available to all faculty each semester and surveying students about the CSIS program enable us to improve student success rates. See Appendix D-1 for student survey in spring 2013. Commercial virtual Exchange servers are still being used to address technical issues with offering online classes. Students must pay a fee for these virtual servers because SMC's Information Technology department has not been able to offer a technical solution.

Eliminated

Comments:

3.

Update each course syllabus to include a list of department certificates and/or degrees the course is part of so that students will be more informed about the various career and educational paths available.

Completed

Comments: none

4.

Update the CSIS department student survey so that it can be offered once per year. We will set a standard timeframe when the survey will be administered. We will also revise and update the questions so that the results can be better assessed. See Appendix D-1 for student survey in 2013.

Completed

Comments: none

5.

Evaluation of the Website Creator and Website Software Specialist certificates offered including curriculum, current industry trends, and labor market demands.

Completed

Comments: In addition to the above selected items we will also review labor market research data.

6.

Determine when the Department will move to Office 2013.

Completed

Comments: The ability of the Department to move from Office 2010 to Office 2013 will in part be based on feedback and support provided by Academic Computing. It will also depend on the instructional resources available to faculty to update the curriculum.

Looking Back

In this section, please document what you did last year as a result of what you described in Section C.

1. Describe any accomplishments, achievements, activities, initiatives undertaken, and any other positives the program wishes to note and document.

Networking Events:

- CSIS Open House – In spring 2014, we held a department open house sponsored by the Women in Technology (WIT) club. The purpose of the open house was to answer students' career questions, promote our current certificates, demonstrate various technologies such as 3-D printing, and promote the participation of students in the WIT club.
- SMC Career Day - Faculty members in collaboration with the SMC Career Center have been participating in a career day in the spring 2014 and fall 2014. Through industry speakers, this event builds students' interests in CSIS fields and provides awareness of career possibilities in these areas.
- Welcome Day – During the SMC Welcome Day event, faculty promote departmental certificates and degrees to new students interested in CSIS subject areas.
- High School Career Day - Faculty members in collaboration with STEM conducted a one day presentation for high school students who came to visit SMC during spring 2014.
- Middle School Outreach Event – Students from John Adams middle school participated in two hands-on workshops on Alice programming and iPhone Mobile Apps.
- First annual Code for the Mission, App Competition, in summer 2014 UCLA - Office of Intellectual Properties and Industry Sponsored Research (OIP - ISR) invited our department to participate, provide technical information for the entrants and judge the app projects submitted for the competition.

Technology Workshops:

- CSIS faculty members in collaboration with the Geek Club presented technology workshops in spring 2014 and fall 2014, one workshop each semester. The first workshop was to present the Best Features of Microsoft Office 2013, and the second workshop presented Cloud Computing in the Classroom (OneDrive). These workshops were a part of the college Student Success Initiative to help training other faculty in technology use. Also, our CSIS faculty who participated in the faculty summer institute now serve as facilitators for these technology workshops.
- During spring 2014 Flex Day, our faculty presented an Excel workshop on advanced features that benefited many of the classified staff and faculty.

2. Summarize how the program or service area addressed the recommendations for program strengthening from the executive summary of the previous six-year program review.

From our last six-year program review recommendations for programs strengthening are as follows:

- Ensure program information is consistent and available in all formats i.e. print information is available on line; there's a link to relevant Counseling FAQs etc.

The CSIS department website provides links to various resources such as three departmental Programs of Study, Degrees & Certificates, and Resources including Faculty, Health IT Training, Jobs & Internships, NASA Grant, SMC Career Center, Project Management, Student Showcase, Support Staff, and Tutoring.

We have faculty dedicated to continuously update our department website in addition to our faculty maintaining their own web pages.

- Consider developing a virtual resource center for students.

The Department is currently working with tutoring center and Distance Education department to institutionalize virtual tutoring for online students.

- Build on initial efforts to respond to assessment results.

The Department has incorporated course SLOs in all the syllabi. Students are assessed every semester based on course SLOs. During department meetings and Flex days, Faculty review the result of SLOs and make necessary changes to ensure that

students are exiting courses with standards that meet industry skillset based on advisory board recommendations for our courses. For UC articulated courses the SLOs are updated based on the articulation agreements.

- Look for ways to meet the challenge of responding to assessment results for the high number of single section courses offered infrequently by a single faculty member.

In addition to the monthly departmental meetings, the three CSIS disciplines have unit meetings to review and, if needed, improve upon their discipline's courses, including single section courses offered infrequently; this is an ongoing task.

- Indicate on all course outlines/syllabi if the course meets any specific certificate requirements.

All departmental syllabi include relevant degree and certificate listing.

- Given the high number of on-line offerings develop a web based way for faculty to share best practices.

The Distance Education committee has developed a best practices sharing tool through FAC 101 in eCollege. In developing best practices for DE, our department faculty were very active in providing their input to the committee individually and through our committee member who serves on DE.

- Consider strategies for better balancing gender enrollments in programs.

The Department has established a club for Women in Technology (WIT) and is a member of NCWIT (National Center for Women in IT). The WIT club participated in on and off campus events to promote the club and its activities.

- Explore using an external web hosting service to support both on-line and on-ground CIS 39 sections.

The Department has subscribed to GoDaddy hosting services for hosting student mailboxes for CIS 39 sections.

3. Describe any changes or activities your program or service area has made that are not addressed in the objectives, identify the factors (e.g., licensure requirements, state or federal requirements, CCCO mandates, regulations, etc.) that triggered the changes, and indicate the expected or anticipated outcomes.

To promote certificate completions, we have established a convention to add a clause to all course syllabi to list all the certificates that the course satisfies. Faculty also discuss such degrees in their classes to raise awareness of these certificates. To support this task, we have also developed a software system to automatically track students progress, and produce a list of all students who have completed all the courses needed but have not applied to receive the certificate of completion. In total this has increased certificate completions from 13 in fall 2009 and spring 2010 to 21 in fall 2013 and spring 2014.

Through the support and encouragement of our industry partners at Amazon, we have developed a Bachelor's Degree proposal in Mobile App Development. See Appendix D1-1 for details of this degree and the supporting letter from Amazon. Unfortunately, our program did not receive the needed votes by the CTE committee to move forward.

4. If your program received one time funding of any kind indicate the source, how the funds were spent and the impact on the program (benefits or challenges).

The CSIS department actively seeks external funding sources and works closely with the Grants office at SMC to write proposals and follow up on funding opportunities. We have reached out to a regional consortium of California community colleges and were approved to join in a partnership to offer courses that prepare the American workforce to enter the healthcare technology industry as supported by the ARRA act. The funding was in the amount of over \$800,000.00 over a two-year period starting in October 2010.

Through the project, "Health Information Technology (HIT) Professional Workforce Development Project - Western Region", the CSIS

department offered free training in two areas of study that extends over a six-month period: 1. HIT Project Management and 2. Trainers in HIT. In total 307 students were awarded certificates of achievement in both areas. Students also received training on job search, resume-writing and interviewing skills. We partnered with LA Care to collaborate on recruiting students and later to support students with employment opportunities. We still maintain the grant website at www.smc.edu/csis/hit where graduates can get links for best practices for job searches and employment sites to visit.

We have also sought and received a NASA grant in the amount of \$446,701.00 that started on October 2010 and ended on September 2013. The project, "The Curriculum Alignment and Research Advancement (CARA) Project: Bridging Community College STEM Education with the NASA Mission", was managed by Jinan Darwiche from the CSIS department who then partnered with Professors Vicki Drake, Earth Sciences, and Jennifer Merlic, Physical Sciences, as co-PI's. Through this project, SMC placed 12 students and 12 faculty in paid 10-week summer scholarships to work at JPL under the supervision JPL scientists. Two of those students were invited to work again in paid positions at JPL, while one student was assigned to the 2020 MARS Rover mission project at JPL.

Other achievements of the project were the infusion of 21 courses with approximately 2000 students of which approximately 1500 were under-represented minority students, with NASA-mission content to build an educational bridge between our students and NASA centers. Additionally one course, MATLAB, was created and offered first in Spring 2012 that prepares students for internships and other employment opportunities at NASA centers. The development of this course was based on the recommendation of our partners at University of California, Los Angeles (UCLA) and various hosts and researchers at JPL.

One of the sustained outcomes of this grant was the establishment of the CSIS department as the SMC liaison with JPL's Education programs. We run the Students Independent Research Internship (SIRI) program every fall and spring, including running information sessions, mailing campaigns, recruiting students, collecting their applications, screening them then submitting the qualified ones to JPL. We maintain a website that is updated every September and May to reflect the SIRI application period and process. In that site, we also listed past events and NASA grants at: www.smc.edu/csis/nasa.

In fall 2010, we received the Foundation's Margin of Excellence grant totaling approximately \$1,200. The funds were used to purchase cloud server space for our Photoshop classes. We also purchased software to support our curriculum: ScreenCast (used to capture screen shots), Camtasia (to create videos), and Respondus (to upload test-banks online). We also purchased headsets needed for the recording process.

In spring 2012, the CSIS department received a Southern California eBusiness Forum grant of \$3,500. This was used to buy a camera for our multimedia course, iPad for our Dreamweaver course, and online storage space for our WordPress course.

In spring 2014, the CSIS department received a \$1,000 Grant from the National Center for Women & IT (NCWIT) Academic Alliance (AA) which selected the Santa Monica College's Women in Technology Club to receive the Symantec Student Seed Fund grant. This grant provided funds for student-run programs to promote women participation in the Department.

Finally, in spring 2014, the Department used our Foundation funds to support seven students QuickBooks, an accounting software certification exam. We hope to continue this program.

5. Describe departmental efforts to improve the teaching and learning environment.

One faculty member, Odemaris Valdivia, attended the Faculty Summer Institute in August 2013. This was a two-week workshop on pedagogy and innovative teaching strategies aimed at increasing student success. She shared what was learned in department meetings with CSIS faculty and flex days with the whole campus. During the summer of 2014, Professor Valdivia participated at the Faculty Summer Institute as a facilitator.

Another faculty, Jinan Darwiche, participated in summer 2014 in the Canada College Summer Engineering Technology Institute (SETI) workshop. SETI aims to educate faculty teaching STEM courses on the use of technology to enhance on-campus and online classes.

6. If there is a tutoring component or other learning support service associated with the program, describe the relationship between the service(s) and the instructional program. If applicable, discuss any data you have compiled regarding student participation and the impact on student success.

The CSIS Tutoring Center situated in the computer lab. Our faculty work with the tutoring coordinator, Aline Baumgartner, to hire student tutors by making recommendations from their top performing past students.

The Tutoring Center tracks students use of the tutoring services, and faculty receive the entries of the services log of every two weeks. Faculty use this log to make note if a particular class, or a student is struggling in a certain topic, and either communicate with the student directly or address the topic in a class meeting. According to tutoring attendance data from fall 2010 to spring 2014, there were: 2,148 CIS students from 24 courses, 1,391 CS students from 27 courses, and 7 OFTECH students from 4 courses.

The top three groups of students who came to the lab for assistance were students from CIS 4, CIS 50, and CS3 respectively. We plan to focus on the tutoring data to list the topics that students are most struggling with, and address those topics in class lectures, and measure the success rate of this change by measuring SLO's for these courses.

7. Describe any grants, VTEA, or other funding received since the last review [in the past year] and how it was used to improve the program.

CTE Perkins (VTEA) funding was used to change a PC classroom to Macintosh computers and added additional Macintosh computers in the computer lab, B231. It was also used to purchase Mac laptops and iPhones to support new iOS and Mobile Apps courses as well as MS Office for Mac courses.

The NASA CIPAIR II grant provided funds of \$450,000 over a three-year period starting from September 2010. The CSIS department partnered with other science departments like Earth Science and Physical Science to best achieve the benefits of the award to promote STEM fields of study and encourage STEM student to pursue graduate degrees. This grant was the founding step through which the college applied for a federal STEM grant that was late awarded to the college.

Through NASA CIPAIR II, there were 12 students and 12 faculty placed in qualified Internship programs at NASA's Jet Propulsion Lab. The grant funding was used to update laboratory equipment for the Earth Science and Physical sciences departments. Additional funding is also to update computers used for networking classes in the CSIS department. The program established and still maintains an Internship program (SIRI) that runs every Fall and Spring at NASA JPL. Students from the computer science discipline as well as all science majors across campus can apply. The internship provides an excellent and prestigious experience to the accepted students, many of whom are offered part-time employment opportunities after their internship completion.

Finally, the CSIS department was awarded a federal HIT (Health Information Technology) grant as a contractor for the Los Rios community college district as part of the ARRA (American Recovery and Reinvestment Act of 2009) funding. The grant award was for a more than \$800,000 over two years starting from August 2010. The objective of the grant was to provide training to qualified students in the area of Health Information Technology to support the upcoming surge in job vacancies once the new federal healthcare law applies. As graduates of the HIT program, students were encouraged to complete the HITPro® certification exam. The grant also worked with students to assist them in their job search effort. The original goal of the grant was to graduate 300 students over two years, and the grant graduated 307 students in total. Through this grant we have strengthened our Office Technology discipline, and developed a new course, OFTECH 28, Electronic Health Records, a high demand course.

We had hoped to grow the OFTECH program by requesting a full time faculty position, however the request was not approved twice. This is hindering our OFTECH program growth which is in high demand given the National Healthcare new law.

8. Describe faculty engagement in activities, training, or professional development to remain current with industry trends.

Our CIS and OFTECH faculty mostly teach software usage, and as software is updated regularly, our faculty periodically participate in professional conferences and training sessions such as Adobe Photoshop, and Max, Course Technology annual conferences, Course Technology Forums, TechEd and WBEA (Western Business Education Association) conferences, the CBEA (California Business Education Association) annual conference, and the BESAC (Business Education Statewide Advisory Committee), MyITLab, Dreamweaver, HTML, Microsoft Windows and Office, QuickBooks, and Health Informatics. In addition, some of our faculty completed training in Adobe Captivate, a tool that we use to create educational videos for our courses.

Some CS faculty participated in workshops in Unix OS, Visual Studio and Microsoft Silverlight, podcasts and webinars on Security and

cyber security.

The Department sponsors a student club, COMTECH, through which student and faculty engage in exploring emerging trends in computer science and robotics.

For more details of other professional development by faculty member, please see Appendix D1-2.

Moving Forward

Discuss and summarize conclusions drawn from data, assessments (SLO, UO) or other evaluation measures identified in Section C and indicate responses or programmatic changes planned for the coming year(s) including:

- **how the assessment results are informing program goals and objectives, program planning, and decision-making**
- **specific changes planned or made to the program based on the assessment results**

Based on the data from SLO's, the CSIS Department is, at a minimum on par with meeting the campus wide data for retention and completion rates. We will use such data to work on improving our future retention and completion rates as detailed in the objectives section below.

Our overall departmental SLO assessments data shows that our students are improving in their mastery of the skills by which they are being assessed. Our plan is to work on the course level assessments to improve individual outcomes. Possible factors to consider in addressing this situation include but are not limited to:

Student completion of the prerequisites: Since the CSIS department course prerequisites are not enforced by Admissions, many students sign up for courses for which they don't meet the prerequisites. We use some measures to reduce the number of such students as our faculty email active students two-to-three weeks prior to the course starting date to remind students of the prerequisites and encourage those who have not met the prerequisites to drop. However, many students still remain enrolled even though they do not meet the prerequisites.

D2: Coming year's Objectives (Moving Forward)

No Objectives have been entered

Curriculum Review

To comply with accreditation standards, programs are required to update their curriculum outlines of record (CORs) every six years. Be sure to submit your updated outlines to the Academic Senate Joint Curriculum Committee in time for them to be reviewed prior to or at the Curriculum Committee's last scheduled meeting of the year (check the committee's submittal deadlines at [click here for dates and deadlines](#)). The Program Review annual report will note whether course outlines are up to date.

1. Discuss how the department reviews, revises, and creates new curriculum. Include the following information:

- **The process by which department members participate in the review and revision of curriculum.**
- **How program goals and SLOS are integrated into course design and curriculum planning.**
- **The relationship of program courses to other college programs (cross-listing, overlapping content)**
- **The rationale for any changes to pre-requisites, co-requisites and advisories.**
- **How the department ensures course syllabi are aligned with the course outline of record.**

- **The process by which department members participate in the review and revision of curriculum.**

Department members review and revise our curriculum through discussion at department and unit meetings. Changes are presented and the rationales for the changes and the expected outcomes are discussed. Most of the changes we apply are due to feedback from our advisory board members. Other changes are prompted by industry software major updates and course level SLO assessments.

- **How program goals and SLOS are integrated into course design and curriculum planning.**

The courses are designed such that they are aligned with program level SLOs. These SLOs are:

1. Applying the skills of using computer software and hardware, students will improve daily business operations and home related tasks.
2. Utilizing knowledge of computer software and hardware, students will facilitate the use and application of data.

CIS and OFTECH courses SLOs are mostly aligned with department level SLO 1 as these courses focus on the use of software and technology for office and home use. CS courses SLOs are mostly aligned with department level SLO 2 as students use technology to develop software for the office and home use.

It is worthwhile to mention that some CIS and OFTECH courses also support SLO 2 and some CS courses support SLO 1.

- **The relationship of program courses to other college programs (cross-listing, overlapping content)**

Several courses in our discipline are cross-listed with other departments, such as ACCTG 35 / CIS 35, QuickBooks, with the Business department. This is an accounting software applicable to both departments.

GIS 20 / CIS 20, Introduction to Geographic Information Systems, with the Geography Department. It is a computer mapping software system that utilizes geo-reference databases.

Math 10 / CS 10 discrete math is a math course that is intended for computer science and engineering students offered by the Math department. It is usually a course in the math department (UCLA, USC list it this way), but some schools list it in the CS department or cross list it (Berkeley). The student, depending on their major, chooses whether they want it listed on their transcript as CS 10 or Math 10.

- **The rationale for any changes to pre-requisites, co-requisites and advisories.**

Pre-requisites are required in many of our advanced courses. If faculty find that students consistently have difficulty with course material, pre-requisites or advisories may be added or edited for that course. By thoroughly discussing new course offerings during the course development process, we seldom need to revise pre-requisites.

- **How the department ensures course syllabi are aligned with the course outline of record.**

Every semester all faculty must submit each class syllabus to the department chair for review. These are individually checked for content, and faculty are contacted if any required information is missing or inconsistent with the course outline of record.

2. Discuss the role of the advisory board and other industry bodies or input in updating curriculum to meet industry standards and the needs of students.

At our annual advisory board meetings, board members review all of our current course offerings and certificates and provide feedback on the relevance of course content based on industry standards. Occasionally, we may receive recommendation for developing new courses in which we do the proper study of industry and academia needs and if the need arises we developed these courses. For example, the MATLAB course (CS 30) was highly recommended to us by our JPL representative. Ruby on Rails course (CS 83R) is another very popular course that was developed based on recommendations from our advisory board members. The WordPress course (CIS 67) and the Social Media Applications course (CIS 70) were recommended by our CIS advisory members and at students requests. CIS 70 is developed as interdisciplinary course with the Business department to complement BUS 34, Introduction to Social Media Marketing course.

Community Engagement

In the prompts that follow, please delineate the partnerships you have with the rest of the SMC community as well as those you have with external organizations.

1. If applicable, describe how your department staff members engage in institutional efforts such as committees and presentations, and departmental activities.

With regards to institutional engagement, our department has always had a very strong and active commitment toward college governance. Members of our department have been active in the Academic Senate and the Faculty Association, serving on Program Review, Curriculum, Distance Education, Environmental Affairs, DPAC, DPAC Budget Committee, Information Services, Career Technical Education Committee, and the Student Relief Fund among others. Members of our department also regularly participate in the Cool Careers program sponsored by the Career Center.

Members of our department regularly participate in Welcome Day to promote our programs to students. Members of our department also regularly work with the Student Success Committee presenting various technology workshops throughout the semester. With the launch of the Center for Teaching Excellence, members of our department have signed on as technology mentors providing additional training and support for faculty across the campus with various technology tools.

In the past few years, our department has become involved in various grant activities. Our department faculty have participated in the STEM grant which has involved cohort selection and the sponsoring of various summer workshops. Many of our students have benefitted from our ongoing relationship with NASA and JPL. Our department was awarded the NASA CIPAIR grant to improve our curriculum and which partnered faculty and students together in summer fellowships to complete research projects. Our department currently participates with JPL in its SIRI program to foster student independent research with staff members of JPL. Our department was also involved in a Health IT Training grant which has led to numerous students achieving a HITPro certification free of charge.

In connection with Institutional Imagination Initiative (I3), our department's Social Media course was selected as one of the classes participating in the "Locals Only" theatre project. This innovative project enabled students to successfully promote the theatre project on various social media sites.

2. If applicable, discuss the engagement of program members with the local community, industry, professional groups, etc.)

Our department participates with Cyberwatch West which is an NSF-funded program regarding Cybersecurity Education with CSU Dominguez Hills. This consortium shares curriculum, promotes professional development and mentoring, and sponsors student competitions that promote degree and certificate completion.

Over the summer of 2014, our department participated in the first annual UCLA "Code for the Mission" App Competition run by UCLA's Office of Intellectual Property and Office Information Technology. This program allowed our students who are mobile app developers to receive real-world mentoring in the creation of various mobile apps that help further UCLA's mission of Research, Education and Service.

The Department has worked very closely with Apple. In addition to participating as our advisory board members, Apple engineers have

offered extensive help with current configuration problems on Mac computers in our classroom. We are hoping and expecting that our Academic Computing department will accept this offer and work with Apple to implement a permanent solution for these operational problems.

We have established a working relation with Amazon Web Services and they are now on our advisory board. They have been instrumental with developing a Mobile Apps proposal for the BA degree and provided a letter of support to emphasize the high industry demand for this degree to educate future workforce in this related field.

3. Discuss the relationship among and between full and part-time faculty, involvement of part-time faculty in departmental activities, and part-time faculty access to resources and support.

Our department has had a long history of supporting its part-time faculty. Part-time faculty regularly attend department meetings. New part-time faculty hires are regularly mentored by our full-time faculty. Part-time faculty have access to all of the same resources as our full-time faculty, including office space, computer access, email, publisher resources, room keys, mailboxes, copier access and the like. Over the years, part-time faculty have also proposed new courses to the Curriculum committee.

Current Planning and Recommendations

The following items are intended to help programs identify, track, and document unit planning and actions and to assist the institution in broad planning efforts.

1. Identify any issues or needs impacting program effectiveness or efficiency for which institutional support or resources will be requested in the coming year. [This information will be reviewed and considered in institutional planning processes but does not supplant the need to request support or resources through established channels and processes].

For the past 3 years our Computer Lab has no longer been open on Sundays. Given that almost 60% of our students are part-time students, who hold jobs on weekdays, those individuals miss the opportunity to use the lab to complete their assignments, thus impacting their success. We have collected signatures from 330 students who are petitioning to opening the lab on Sunday. Please see appendix G2-1 for this petition.

2. If applicable, list additional capital resources (facilities, technology, equipment) that are needed to support the program as it currently exists. [This information will be reviewed and considered in institutional planning processes but does not supplant the need to request resources through established channels and processes].

Our program relies mostly on teaching software usage and software development, so the quality of the software (using latest editions) and computers (speed and memory) we use in the office and the classroom has a high impact on our pedagogy. All of our classrooms are equipped with projectors, instructor workstations and Windows-based or Mac-based workstations. Many of our students utilize the computer lab housed in the Business building to complete their assignments. Maintaining and upgrading all this equipment and software presents many budgetary challenges, especially in the current budget climate. While we utilize federal CTE Perkins grant funds to the extent we can, this funding cannot be used to maintain existing facilities. Clearly, it is necessary to have an annual dedicated budget for equipment and software to maintain our level of excellence.

Additionally, we have developed a Student Tracking System - listed in section D1 - Looking Back, Q 3. If this software is setup properly, it uses the current list of all the department students, and compiles a list of all students missing one or two courses of all department certificates, then outputs that list and or send those emails to encourage them to register for the missing courses to receive their certificates. Our current use of the software is limited due to not having the proper permissions setup for us by Academic Computing.

Below is a simplified 6-year budget plan for the cost of the equipment that we use.

Hardware - Every 5 years	Amount
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Faculty computers (15 @\$1200)	\$18,000
Classrooms and lab computers (285 @@1200)	\$342,000
printers (5 @ \$2000)	\$10,000
Projectors (5 @\$700)	\$3,500
Software - Annual	
QB	750
Matlab	600
Parallels	\$2,500
Total Training - PD for faculty	\$700
Student Help - Annual	\$10,800
Office Supply - Annual	\$600
Instructional Supply - Lottery Annual	\$3,000

3. If applicable, list additional human resources (staffing, professional development, staff training) needed to support the program as it currently exists. [This information will be reviewed and considered in institutional planning processes but does not supplant the need to request resources through established channels and processes].

Currently, the Office Technology discipline has no full-time faculty. A new hire is needed to expand, strengthen, and promote our Office Technology program.

Additional student workers are always needed to support our administrative assistant and make sure that that the office is adequately staffed at all times.

Operating system software, server software and other backend programs need to be updated on a regular basis. To support the new

Macintosh equipment as well as the constantly changing PC computing environment; the computer lab staff needs additional training. The Department's curriculum also requires dedicated server space for our Web development and database application classes. Therefore, it is critical that staff have sufficient training to support and maintain these servers.

Future Planning and Recommendations

The following items are intended to help programs identify, track, and document unit planning and actions and to assist the institution in broad planning efforts.

1. Projecting toward the future, what trends could potentially impact the program? What changes does the program anticipate in 5 years; 10 years? Where does the program want to be? How is the program planning for these changes?

Over the next decade, we anticipate an increase in the use of cloud-based technology which will reflect changes in the supporting software and hardware environments. More demand for Mobile technology will dictate evolving hardware and software support. As a national trend, the need for cyber security will continue to dominate and this is an area we must explore further. Finally, the healthcare industry is moving towards patient records management systems. New and updated courses will be needed to support these subject areas. Having said that, this will require additional faculty and FTES as our current faculty and allocations do not allow us to grow into any of the above evolving areas.

From CIS / OFTECH AB 2012: Trends: Adobe Creative Clouds, Organizational and project management skills, Microsoft Project

From CIS / OFTECH AB 2013: Trends: Cloud Computing, Office 365, SharePoint Technologies.

From CS AB 2012: Trends: Computing is undergoing a transformation to mobile devices and a cloud-based architecture. UI design is increasingly important.

From CS AB 2013: Trends: Cloud storage, cloud computing, security, big data.

From CS AB 2014: Trends: On-shoring of jobs, big data, NoSQL, mobile platforms, Ruby on Rails, embedded technologies, smart devices, wireless, smart homes, etc., cloud computing, JavaScript everywhere.

2. If applicable, list additional capital resources (facilities, technology, equipment) that will be needed to support proposed changes. [This information will be reviewed and considered in institutional planning processes but does not supplant the need to request resources through established channels and processes].

To stay current with the industry trends, faculty and classrooms need to have new hardware every few years to support the updated versions of the software they teach.

All classrooms need wider and taller whiteboards because most of them are now covered up by the projector screens. These whiteboards should slide up to reveal another whiteboard underneath so we can more than double the area.

We need additional software support for faculty using some Adobe cloud software that is currently being taught but not supported by Academic Computing. Our faculty have to purchase their own access to such software, even though this is for teaching current courses.

We also would like to have smart interactive board, so we can record and save lectures, which will provide a great deal of additional support to our online students (note our online course offerings constitute about 60% of our total allocation).

3. If applicable, list additional human resources (staffing, professional development, staff training) that will be needed to support proposed changes. [This information will be reviewed and considered in institutional planning processes but does not supplant the need to request resources through established channels and processes].

In Q1 and Q2 we have listed our additional needs for faculty, FTES and supportive services.

In the past decade, our department has seen a net loss of 4 full-time faculty positions. All these positions are quite critical to the growth of our department and the retention and success of our students. The OFTECH discipline is currently being resurrected but has no full-time faculty to manage and grow this program. We urge the College to appropriately prioritize new hiring in the OFTECH discipline.

The District also needs to support additional professional development for both CSIS faculty and Academic Computing staff to the greatest extent possible. Our faculty and support staff need to keep current with industry trends and upgrade their skillset as the industry evolves. We are in desperate need to resolve the technical issues with our Mac computers so our students can learn in a functional classroom environment.

4. If applicable, note particular challenges the program faces including those relating to categorical funding, budget, and staffing.

Course Offerings

One of our objectives is to develop a flowchart for the sequence of courses to be completed in three certificates. This will present a challenge for us to ensure that we offer courses in such a sequence and frequently enough that students can complete their course work within an adequate timeframe for entering the workforce or transferring to four-year universities. The Department has to prioritize course offerings within the limited given allocation.

As noted earlier, we urgently need funding to hire instructional specialists that can serve our unique program and software need in the Computer Lab and classrooms, and re-open the lab on Sundays.

Staff and Budget

We have requested a full-time faculty position in the OFTECH program. Currently there is no full time faculty in that area, and 5 part-time faculty. We feel this area, especially Medical Technology is expanding due to the provisions of the new healthcare act. Having conducted a market study of job openings, it is our belief that this is an emerging field. We have some basic courses but need to expand. With no full time faculty available, it is not possible to grow course offerings to match the industry needs.

We constantly have needs to purchase computer hardware (electronic pads, mobile devices, cables, and other hardware) to support emerging fields. This is a need that occurs before we can develop and offer courses based on these fields. Having additional funding, beyond updating our office computers allows our faculty to make SMC a leader in offering computer technology to the community.

5. Summarize any conclusions and long term recommendations for the program resulting from the self evaluation process.

From fall 2009 to spring 2013, our department has raised over \$1.2M, which we have used to develop latest technology courses, work with other departments to update their courses, present the world of STEM research to students in most prestigious science labs, in addition to upgrading our lab and classroom computers.

We have developed 12 new courses in our three disciplines of CIS, CS, and OFTECH: WordPress, Social Media Applications, Flex, Catalyst, MATLAB Programming, Python Programming, Android Development, iOS Development with Objective-C, iOS Mobile App Development, iOS Advanced Mobile App Development, Ruby on Rails, and Electronic Health Records.

The process of self-evaluation has led us to set many standard activities that we hope to sustain: Course SLO and textbook revisions, certificate revisions to align them with industry trends.

We anticipate future program reviews will allow us to better assess our needs, to project and plan where we can be in the future.

We have concluded that we need to address the systematic gender gaps, as well as ethnicity inequity.

6. Please use this field to share any information the program feels is not covered under any other questions.

In addition to above information, we must point out a critical and ongoing problem with ceiling leaks in the Business building. Since 2012

we have been observing additional leaks inside our computerized classrooms (BUS 259 & BUS 255), Computer Lab (BUS 231), faculty offices (BUS 261), second floor next to the front staircase, and courtyard area. When the ceiling leaks, tiles get wet and we have to use large buckets to collect rain water. As a direct result of this, computers that are below the leak are not operational and students cannot use them while in they are in class. These water leaks can damage computers in the classrooms and lab, hurt students who are sitting below the leaking tiles. Additionally, it has damaged the carpets and students and faculty complain about the damp smell in these classrooms.

The Department has contacted facilities to repair the roof in the Business building. The facilities has responded with roof repair scheduled for July 7 - 16.

We would like to bring the College's attention to this critical matter.

Evaluation of Process

Please comment on the effectiveness of the Program Review process in focusing program planning.

The Program Review process has helped us identify our strengths (offering latest trends) and weaknesses (need to address diversity and inequity). It has encouraged department-wide discussions on how to strategize our goals, to align the Department with the College's goals and mission. Finally the process has pushed us to put forward a 6-year plan for budget, staff, and curriculum.

As for the new online format, it is easy to use but has many repeated questions in different sections.

Executive Summary

These fields to be filled out by the Program Review committee. Reports will be sent to the program and will be available on-line to populate relevant fields in the annual report and the next 6 year report.

Narrative

The Computer Science and Information Systems (CSIS) department encompasses three distinct areas: Computer information Systems (CIS), Computer Science (CS), and Office Technology (OFTECH). In addition to offering Associate Degrees in Computer Science, Computer Programming, Database Applications Developer, and Web programming, the department offers 10 focused Certificates of Achievement and 12 Department Certificates. Each Certificate of Achievement may be used as a major for the Associate of Science degree.

The department has two advisory boards as required for CTE programs. One advisory board supports the CIS and OFTECH programs while another supports CS. These boards include industry representatives, employers, and representatives from institutions to which students transfer. These active boards have been critical to ensuring the disciplines remain current with industry needs and have been the catalyst for implementing new curriculum.

CSIS has hosted a number of networking events to engage current students and to recruit new students. They have also presented technology workshops open to faculty from other disciplines. To improve the ratio of female to male students the department sponsors a Women in Technology club. This also aligns with institutional STEM efforts. To help students better understand CSIS educational options the department now includes in all course syllabi a listing of the degrees to which each course applies.

Since the last program review report, the department has applied for and been awarded a number of significant grants, including a regional consortium in Health information Technology (HIT), and a NASA grant to support student and faculty internships at JPL.

The department offers access to a computer lab for students to work on assignments. Within the computer lab tutoring services are also available using trained student tutors who have been identified by instructors as top performing. A tutoring coordinator, shared with the Business department, hires and trains the student tutors.

Development of an interdisciplinary certificate in Social Media is something the department is anxious to explore with other departments. Several existing courses that could be included in the certificate have already been developed and are cross listed with other disciplines. Such exploration should include consideration of pathways to the new Interaction Design baccalaureate degree.

Many department courses list prerequisites, which the report notes are not enforced, so students often enroll in a course for which they are not prepared. If this continues to be a concern to faculty the department will need to engage in the required validation process to implement prerequisite enforcement.

The programs have written and implemented a number of new courses and appear to be reviewing and revising curriculum on a somewhat regular basis. As the programs address areas that are experiencing rapid changes in technology and applications there is a desire to expand curriculum in multiple areas and directions. The department should assess the feasibility of doing so within current staffing and WTH parameters.

Program Evaluation

CSIS has thoughtful and well-articulated department goals, which are demonstrably linked to the Institutional Learning Outcomes (ILOs). The department has developed broad department level SLOs as well as program SLOs for each of the three programs. Core competencies have been established for each Certificate of Achievement and Department Certificate. All course SLOs are aligned with one or more of the department and program level SLOs. Thus departmental outcomes discussions at the program or department level can result in change to course SLOs and vice versa. Course level SLOs are assessed every semester with a variety of assessment tools being employed such as projects, quizzes, exams, and assignments. Improving student success is the driver behind discussions and changes made at the course level. Comparison data shows that changes made in selected courses have had a positive impact on success rates.

As part of the program evaluation process the department regularly reviews enrollment, success and retention rates, degrees and certificates, student survey data, and advisory board recommendations. A student survey is administered every spring to garner direct input from program students and has recently been revised. In terms of data reviewed, the department has noted a gender gap in students enrolled in CSIS with significantly more male students choosing these courses. This disparity is of some concern for the department, as is the desire to improve the equity gap. Declines in enrollment that are of concern have occurred in the CIS and OFTECH areas. Other data that is regularly tracked has seen some improvement.

The department collects and uses a variety of data to inform program discussions centered on improving student success. For example, CSIS has begun keeping a log of tutoring visits and the topics covered. The plan is to use this information to focus departmental discussions on the areas for which most students seek help, address those topics in the relevant courses, and then measure any changes in success rates through grades and relevant SLO assessment.

Commendations

CSIS is commended for:

1. A well-organized and responsive report.
2. Clear linkages between course, program and institutional outcomes.
3. Faculty engagement in securing grants, activities for and with students and training,
4. Maintaining currency in fields with rapidly changing technology and applications.
5. Efforts to promote degree and certificate completion.
6. Effective use of data to guide departmental planning.
7. Efforts to address imbalance in male to female student ratio by sponsoring the Women in Technology club.

Recommendations for Program Strengthening

The committee recommends CSIS consider the following to further strengthen the program:

1. Identify strategies to address the equity gap that can be implemented using existing resources and partnerships with other institutional programs and efforts.
2. Compare gender, equity, and success data with regional and national data in the field to determine whether our data is significantly out of alignment to inform goals for improving departmental data.
3. Conduct follow-up studies to identify challenges underrepresented students face inhibiting successful completion of CSIS courses.
4. Explore options for linking backend computer skills with new user design interface courses.
5. Determine departmental will to engage in pre-requisite validation and enforcement.
6. Identify a primary focus for the OFTECH program.

Recommendations for Institutional Support

None

Attached File Upload

Attached Files

Appendix A-1 Course Descriptions	
Appendix A-2 Faculty listing - full-time And part-	
Appendix A-3 computer_information_systems_as	
Appendix A-4 computer_science_as	
Appendix A-5 office_technology_aa	
Appendix B-1 CSIS Equity Funding Proposal	
Appendix B-2 IR Data Program Review CSIS Report	
Appendix C-1 SLO Assessments	
Appendix C-2 CSIS-Student Survey-Spring 2014	
Appendix C-3 Degrees and Certificates Awarded	
Appendix C-4 CSIS Transfer Data	
Appendix C-5 Tutoring Data	
Appendix C-6 Advisory Board Meetings 2009-2014	
Appendix D1-1 BAPilot-MobileAppsDevelopment	
Appendix D1-2 Faculty professional Development	
Appendix G1-1 Computer Lab Open Sundays	