# 2020 Annual Program Review

**Program Name: Computer Science Information Systems**

**Program Review Author: Howard A. Stahl and many other faculty**

**I. PROGRAM DESCRIPTION**: In one or two paragraphs, provide a description of the primary goals of your program or service area. Attach an appendix to describe your program or service area in more detail, if needed.

*Note: If no changes have occurred, copy and paste from your last review. If it exists, feel free to copy the brief description of your program from the college catalog:* [http://www.smc.edu/CollegeCatalog/Pages/default.aspx](http://www.smc.edu/CollegeCatalog/Pages/default.aspx)

The Computer Science Information System department is comprised of three different disciplines:

*Computer Science*
The field of computer science leads to a variety of careers that all require core computer science skills. These skills include theory courses such as Computer Hardware, Data Structures, and Networks, as well as programming in different computer languages. Within the field, areas of specialty lead into careers including software development, project management, system analysis, and maintenance among other areas. The program has developed Cloud Computing programs and expanded to teach the most popular Software-As-A-Service platforms and tools.

Programs offered include:
• Transfer Preparation
• Computer Programming Associate Degree
• Computer Science Associate Degree
• Database Applications Developer Associate Degree
• Web Programmer Associate Degree
• Computer Programming Certificate of Achievement
• Computer Science Certificate of Achievement
• Database Applications Developer Certificate of Achievement
• Web Developer Certificate of Achievement
• Cloud Computing Department Certificate
• Cybersecurity Department Certificate
• Entry Level Programmer Department Certificate
• Information Systems Management Department Certificate
• Mobile Apps Development – iPhone Department Certificate
• Networking Department Certificate

*Computer Information Systems*
Computer information systems managers oversee a variety of administrative, clerical, and accounting functions necessary to efficiently run and maintain computerized business systems. Office workers use a variety of software to produce correspondence, maintain databases, manage projects, organize meetings, manage financial records, and create presentations. With the Internet being an integral part of everyday life, webpage authoring and web application development have been other areas of high demand in the job market.

Programs offered include:
• Transfer Preparation
• Business Information Worker 1 Associate Degree
• Business Information Worker 2 Associate Degree
• Computer Business Applications Associate Degree
• Website Software Specialist Associate Degree
• Business Information Worker 1 Certificate of Achievement

- Business Information Worker 2 Certificate of Achievement
- Computer Business Applications Certificate of Achievement
- Website Software Specialist Certificate of Achievement
- Digital Publishing Certificate of Achievement
- Website Creator Department Certificate
- Website Development Management Department Certificate
- Social Media Assistant Certificate of Achievement

*Office Technology*
Office workers are responsible for a variety of administrative and clerical duties necessary to run and maintain organizations efficiently. They use a variety of software, produce correspondence, maintain databases, manage projects, as well as organize meetings, manage records, and schedule appointments. Office workers find employment in a variety of settings, such as corporations, government agencies, schools, and hospitals. The program has expanded to teach medical billing and coding classes.

Programs offered include:
- General Office Associate Degree
- Legal Administrative Assistant Associate Degree
- Medical Administrative Assistant Associate Degree
- Medical Coding and Billing Specialist Associate Degree
- General Office Certificate of Achievement
- Legal Administrative Assistant Certificate of Achievement
- Legal Office Clerk Certificate of Achievement
- Medical Administrative Assistant Certificate of Achievement
- Medical Coding and Billing Specialist Certificate of Achievement
- Medical Office Clerk Certificate of Achievement
- Clerical/Data Entry Department Certificate
- Electronic Medical Records Clerk Department Certificate
- Hospital Inpatient Coder Department Certificate
- Medical Billing/Coding Department Certificate
- Medical Records Clerk/Receptionist Department Certificate
- Medical Transcription Department Certificate

## II. PROGRESS SINCE LAST REVIEW (LAST YEAR'S OBJECTIVES)

Identify the original objectives from your last review, as well as new objectives that have emerged since then (if applicable). For each objective, determine status and explanation for status.

| Objective | Status | Status Explanation |
|---|---|---|
| Launch Azure Web Services Classes and Certificate | Launching In Fall, 2020 | Azure is Microsoft's cloud computing platform. We are excited to offer this learning opportunity to our students and believe many will find jobs once they acquire these technology skills |
| Support Certification Exams For Completers In Various Programs | Sought Perkins Funding | The new Perkins rules allows the college to fully fund the cost of industry recognized certification exams. We believe students in each of our three disciplines will have a much greater likelihood of being hired in industry if they can pass certification exams upon completing their certificate or degree. |
| Launch non-credit offerings in | Launching in Fall, 2020 | Launching In Fall, CIS has created two non-credit |

| | | |
|---|---|---|
| CIS | | classes and created a non-credit Certificate of Completion.  We are working with the Dean of Non-Credit and External Programs so that these classes might be offered at other locations via a new partnership with Job Center of California - JVS Work Source.  Additionally, we are partnering with ESL Non-Credit and its Workforce Innovation grant to serve their students. |
| Critically review and revise degrees and certificates | Ongoing | The Program Mapping exercise has highlighted a number of issues with our existing degrees and certificates in our different disciplines.  We have been actively working with the Curriculum Committee to revise and refresh a number of our degrees and certificates. |
| Develop Program Maps in support of the redesign effort | Completed | Finished and sent to the Curriculum Committee for further review |
| Approve all courses for Distance Education | Completed | Finished and sent to the Curriculum Committee for further review |

## III. ACHIEVEMENTS

**(Optional)** List any notable achievements your program accomplished in the last year.

Many of our faculty (Howard Stahl, Vicky Seno, Koda Kol, Munir Samplewala) coordinate the Amazon Web Services project across the Southland.  This past year, more than 600 students participated in two Cloud Day events promoting the program.  More than 1,000 students were enrolled in AWS courses run at 19 community colleges in the region.

Students earned more degrees and certificates offered by our three disciplines in 2019-2020 than in any year in the past decade.

Our three disciplines created eight new courses and three new certificate programs in 2019-2020.

We joined the regional Cybersecurity project being organized by Rio Hondo College this past year.  A job placement company named Bixel Exchange has been helping students with employment and internships in the industry.  Data and feedback from Bixel Exchange has shown that our CS student cohort is the largest and best prepared of any of the participating colleges.

## IV.  CURRENT PLANNING AND RESOURCE NEEDS

**Part 1: Narrative**
   Broadly discuss issues or needs impacting program effectiveness for which institutional support or resources will
   be needed for the next academic/fiscal year.

**NEXT YEAR'S OBJECTIVES**

| Objective | Rationale for Setting Objective<br><br>*Link to data, if applicable* |
|---|---|
| Complete 4 tenure review committees | Alaisen Reed, Vicky Seno, Scott Bishop, Mary Eshaghian |
| Complete the Cybersecurity position recruitment | The process got stopped this Spring |

| Participate in the NSF Grant – Fostering an Equity-minded Student Success Culture in STEM | Some of our faculty are part of the first cohort in Fall 2020 |
|---|---|

We are very pleased with the ongoing increase (nearly a 100% rise from 2014-2019) in the number of degrees and certificates awarded in the recent past by our department.  We have revised and created numerous certificates and degrees including the Computer Science AA degree, Web Developer, Cloud Computing, Entry Level Programmer, Business Information Worker and Social Media Assistant programs.  We believe these changes are making these degrees and certificates more attractive to our students.  And in turn, our students are completing these programs at a higher rate.

We remain concerned about the ongoing drop in enrollment in the CIS discipline. (-33% from 2014-2019)  While it is not a universally held view, a number of CIS faculty believe their program would benefit from being reorganized under the Business department.  We are waiting on Academic Affairs to determine if this option would be viable.

HUMAN RESOURCES

- We have a full-time Cybersecurity position approved for recruitment whose hiring committee was stopped due to the COVID-19 crisis.  It continues to remain extremely important to us to fill this position.  We hope that this recruitment can resume once the crisis passes.

- As the complexity of our curriculum continues to grow, District IT staff has not been adequately matched to our needs.  When different servers go down, this past year our IT staff has begun to rely upon on our part-time faculty to restore them.  It is critical that staff have sufficient training to support and maintain the servers our program relies upon.

- Reimagine the Department Administrative Assistant (AA) Role
  Both the Business Chair (Sal Veas) and I agree that the role of the Department AA has pretty much stayed the same over the past many years.  In fact, there are a number of activities that are no longer handled by the AA as compared to the support provided many years ago. The responsibilities of the AA do not reflect the new role of the Department office and new responsibilities that are a result of digital communication with the public and our students.

FACILITIES

- For more than five years, the Business Computer lab has been closed on Sundays and shuts down early on Saturdays at 4:30 PM.  Student surveys and demographic data from 2018-2019 show 56.3% of our students are part-time students who work during the week.  These individuals miss the opportunity to use the lab to complete their assignments, thus impacting their success. In the past, we have collected signatures from hundreds of students who are seeking to open the Business Computer lab on Sundays.  We believe our level of student success and engagement is harmed from the lack of District support on this issue.
- Our existing classrooms regularly need to be refreshed.  In the recent past, we have acquired new moveable whiteboards, replaced carpet, repainted, installed new desks and chairs and refreshed all our existing iMacs.  This current year, we have sought funding to replace our overhead projectors with 4K 7,000 lumen projectors.  We have not yet learned whether these funds have been approved.

EQUIPMENT
- Our program relies mostly on teaching software applications and software development.  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. While maintaining and upgrading all this equipment and software presents many budgetary challenges, our program thrives when our equipment and software is current and state-of-the-art.

While we utilize federal CTE Perkins grant funds to the extent we can, Perkins 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.  The technology replacement plan is not currently sufficient to meet our needs.  Students and Faculty complain often about the slowness of our equipment.  This current year, we have sought funding for solid state disk drives to extend the useable life of our existing lab computers.  We have not yet learned whether these funds have been approved.

In an effort to augment our technology needs, the department is now starting make heavy use of AWS resources to support our classroom teaching.  Storage services are being allocated to students in CIS 51 to support their internet website work.  Compute resources are being allocated to students in CIS 67 to support their use of WordPress.  End-user computing equipment is being requisitioned in the cloud to support student in CIS 4 because many Microsoft Office tools do not run on Chromebooks and are not well supported on student macs.  Additionally, campus IT staff regularly seek the assistance of our part-time faculty to maintain different servers used by our educational programs.  We feel it is important that campus IT themselves be able to maintain campus equipment, as this is not a role part-time faculty are meant to perform.  All this speaks to the growing inability of campus IT to keep up with the demands of our program.

PROFESSIONAL DEVELOPMENT

- Ongoing professional development is very important in a technology program where the state-of-the-art changes rapidly.  While we have been successful in recent years leveraging Perkins and Strong Workforce funding for this purpose, these funding source cannot be relied upon every year to meet our needs.  We always have conferences faculty wish to attend that cannot be funded adequately.

**Part 2: List of Resources Needed**

Itemize the specific resources you will need to improve the effectiveness of your program, including resources and support you will need to accomplish your objectives for next year.

*While this information will be reviewed and considered in institutional planning, the information does not supplant the need to request support or resources through established channels and processes.*

| Resource Category | Resource Description/Item | Rationale for Resource Need (Including Link to Objective) |
|---|---|---|
| **Human Resources** | Cybersecurity Full-time Faculty Position IT Support | Approved but the process was stopped |
| **Facilities** *(info inputted here will be given to DPAC Facilitates Comm.)* | Business Computer Lab open on weekends Updated Classroom Projectors | Student Success is affected by limited hours |

| Equipment, Technology, Supplies *(tech inputted here will be given to Technology Planning Committee)* | Computer Replacement Cycle  Not every course transitioned equally well to a remote environment | Lab computers need to be refreshed  Loaner computer equipment other than Chromebooks is needed for some courses and has been requested.  Additionally, the department has started making use of AWS cloud services to further augment our technology needs |
|---|---|---|
| **Professional Development** | Industry conferences | Funding is needed to support faculty to remain current with industry trends |

## V. CHALLENGES RELATED TO SPRING 2020 COVID-19 CRISIS AND RESPONSE:

List significant challenges your program faced in Spring 2020 due to COVID-19. Please also Include your responses and solutions to this crisis.

The ongoing COVID-19 crisis has presented a significant challenge to our students, our faculty, our program and the college.  With the transition to remote teaching, both faculty and students have had to make significant adjustments.  Given the skillset of the faculty in our department, many of our faculty have been mentoring faculty to make the transition to remote teaching by providing training, workshops and one-on-one guidance.

Now all our labs are closed making it very challenging for our students who were relying on this equipment to complete their course assignments.  While we are grateful to the college for its rapid deployment of Chromebooks to students and staff who needed them, not all of our software applications have transitioned smoothly to remote learning.  Visual Studio and Visual Basic access is still not resolved, greatly affected our students enrolled in CS 3, CS 15, CS 19, CS 52 and CS 20A.  Additionally, Python students have had great difficulty working with the Chromebook loaner equipment.  Also, Microsoft Access is not well supported on student Macs nor on the loaner Chromebooks.  We continue to work with IT to try to identify a way that desktop applications can be run remotely.  We have requested that a certain number of lab computers be made available via Remote Desktop.  Support is very limited and will likely not be able to accommodate fully every student needing access.  At the present time, the solution offered to us by IT supports only Visual Studio 2017, an out-of-date version that does not match what is currently installed on the lab computers.  Should we return to some level of on-campus access, this compatibility issue will become a problem.  In addition, we are investigating using funds from Workforce Development to purchase non-Chromebook loaner equipment to support classes that did not transition smoothly to Chromebooks.

## *VI. THE NEXT SECTION IS FOR CTE PROGRAMS ONLY*

**PARTNERSHIPS:**

**Part 1: Industry advisory meeting dates and attendance for 2019-2020.**

| Date of Meeting | # of SMC Attendees | # of Non-SMC Attendees |
|---|---|---|
| Computer Information Systems Advisory Board Meeting – May 17, 2019 | 13 | 5 |
| Computer Science Advisory Board Meeting – May 10, 2019 | 14 | 5 |
| Office Technology Advisory Board Meeting – May 3, 2019 | 4 | 3 |
| Computer Information Systems Advisory Board Meeting – May 8, 2020 | 12 | 4 |
| Computer Science Advisory Board Meeting – | 13 | 5 |

| | | |
|---|---|---|
| May 15, 2020 | | |
| Office Technology Advisory Board Meeting – May 29, 2020 | 10 | 2 |

**Part 2: Employer partnerships/collaborations for 2019-2020. Identify the most salient partnerships or collaborations.**

| Employer Name | Type of partnership or collaboration | Optional: Additional information about partnership or collaboration |
|---|---|---|
| Amazon Web Services / AWS Educate | Full Partnership | Many SMC Faculty now serve as Cloud Ambassadors with AWS Educate. The department has been working regularly with Amazon for more than five years to develop curriculum in this area.  We are working with a number of Amazon industry partners to place our graduates into internships and job opportunities with local companies.<br><br>We have been nurturing a regional consortium project to integrate the efforts of a dozen nearby community colleges interested in growing their curriculum in this area. |
| Microsoft Azure / Microsoft Learn | In Development | Seeking a partnership to support the launch of Azure classes in the Fall 2020. |
| Google / Coursera / Jobs For The Future | In Development | Supporting the launch of a non-credit Google IT Support Professional Certificate program in 2020-2021 |
| Job Center of California – JVS Worksource | In Development | Seeking a partnership similar to dual enrollment to offer non-credit classes at other locations |
| Onica | Partner | AWS industry partner |
| Relium | Partner | AWS industry partner |
| Apple One | Partner | Job Placement industry partner |

*The following section will be completed by your program's area VP*

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☐ Check this box to indicate that you have reviewed the program's annual

review Provide any feedback and comments for the program here: