

The Instructional Program Review Narrative Report

1. College: Merritt

Discipline, Department or Program: Computer Information Systems

Date: February 15, 2010

Members of the Instructional Program Review Team: Anita M. Black

2. Narrative Description of the Discipline, Department or Program:

Please provide a general statement of primary goals and objectives of the discipline, department or program. Include any unique characteristics, degrees and certificates the program or department currently offers, concerns or trends affecting the discipline, department or program, and any significant changes or needs anticipated in the next three years.

The CIS Department is designed to provide foundation courses for students planning to transfer to four-year institutions and/or seeking skills for employment.

Mission Statement

The Computer Information Systems program prepares students for entry-level positions in PC Applications and Web Page authoring & publishing. Certificates of Achievement are offered in the respective areas upon satisfactory completion of the designated course of study.

The Merritt College CIS Department is part of a comprehensive, multi-cultural, public, open-access institution with a mission to develop and sustain effective partnerships with business, governmental, and community agencies to foster economic development and workforce preparation for its students.

Vision

The CIS Program at Merritt College strives to be a model for career and transfer education by fostering student success, transforming lives, and strengthening the diverse community it serves.

Values

The CIS Program at Merritt College values instructional excellence, quality student support services, a caring and inclusive environment, and the ability to model best practices for career and transfer education via a variety of academic and business community partnerships.

3. Curriculum:

- **Is the curriculum current and effective?**

The CIS Department is currently providing basic computer entry level courses for general education degree/certificate requirements. Two of the three courses transfer to four year institutions. The one 200 level course meets computer literacy requirements for most Allied Health, degree/certificate programs.

According to the college's approved program status with PCCD and the State Chancellor's Office, the degree curriculum is no longer listed in the current catalog. The catalog reflects four certificates—Internet Programming, PC Applications Help Desk Specialist, Web Page Authoring and Web Publishing.

After being administratively downsized in the past 5 to 6 years, the department wants to take the necessary steps to reactivate the degree pattern for computer science and overhaul all certificate patterns for computer information systems.

Have course outlines been updated within the last three years? If not, what plans are in place to remedy this?

The following courses were updated within the last three years—6, 20, 40, 42, 200, 233, 234A, 234D, 234E.

The following courses need updating—1, 5, 35, 36A, 64, 65, 66, 201, 205, 209, 234B, 234C, 239, 242A, 242B, 242C.

The CIS Department must create a schedule to update the remaining course outlines. In addition, all course outlines need Student Learning Outcomes with assessment component.

- **Has your department conducted a curriculum review of course outlines? If not, what are the plans to remedy this?**

The CIS Department has not conducted a curriculum review of course outlines. The department must devise a plan spring 2010 to remedy this situation.

- **What are the department's plans for curriculum improvement (i.e., courses to be developed, updated, enhanced, or deactivated)?**

The department must structure a plan for curriculum improvement spring 2010.

The Department should identify and apply for grant opportunities to develop a Health Information Technology Program. The design of this program could include other departments, i.e. Business, Para-Legal, and Allied Health Programs. An articulated 2+2+2 curriculum structure should be designed for multi entry and exit levels including 4-year transfer institutions.

The Preliminary McIntyre Environmental Scan Report as of September 6, 2007 finds Younger students ("net generation") now enter PCCD with more IT and media skills. Job growth with center on computer systems design (Chart E Industry Employment, 2004-14). A recommended growth emerging "niche" is digital media (Chart D). Although requiring a Baccalaureate Degree, according to Chart F Computer Software Engineers will be needed. This substantiates the need for Merritt College to keep its transfer level computer science curriculum current and articulated with 4-year institutions. It also supports reactivation of the college's approved program for computer science.

Based on the McKinsey Economic Report, the CIS Department should redesign and strengthen existing programs. Here is what the report states:

"Arts, design, and digital media is then second of the spotlight sectors in this report's discussion of emerging sectors. This cluster comprises a number of different activities that share human creativity and artistic methods as common roots of their

success: the fine arts, architecture, special design, animation, motion picture and video production, music production and publishing, recording studios, advertising, and print publishing.”

It would behoove the CIS Department to consider building a cross-discipline program with other Merritt College departments—i.e. Health Information Technology curriculum, and/or Art & Music.

Have prerequisites, co-requisites, and advisories been validated? Is the date of validation on the course outline?

Department courses do not require pre- or co-requisites, no advisories.

- **What steps has the department taken to incorporate student learning outcomes in the curriculum? Are outcomes set for each course? If not, which courses do not have outcomes?**

All courses in the CIS Department need to incorporate SLOs, establish cycle of completion.

- **Describe the efforts to develop outcomes at the program level. In which ways do these outcomes align with the institutional outcomes?**

The department held 2 mapping sessions with Dean Kenney to develop program level outcomes and complete the department's program map for all certificates.

Most directly align with the institutional outcomes. Specifically the communications institutional outcome is reflective on the program level. The department must continue dialogue regarding course level outcomes and their alignment to program and institutional outcomes.

- **Recommendations and priorities.**

1. Complete Program Level mapping and SLOs for all CIS Department degree/certificate programs by the end of spring 2010. Determine whether department should reactivate the computer science approved degree program and reconfigured and/or deactivate current certificate programs.
2. Establish a 2 year cycle to update all course outlines with SLOs.
3. Complete Measure A requests to strengthen computer lab by upgrading the electrical power panel so the balance of computer workstations can be added to furnish Room P103 (department's computer lab now being jointly shared with the Business/Economics and some Allied Health Departments).
4. Assess current hardware specifications and purchase additional equipment to accommodate Windows 7, Microsoft Office 2010, and the Microsoft Alliance Partnership applications and languages for reactivation of the computer science major. All applications and languages to be installed in the CIS Computer Lab, rooms P103, P107, P111.
5. Complete Measure A requests to purchase new furniture for staff offices inside CIS Computer Lab.
6. Prepare for transitioning to the new Windows 7 OS and Microsoft Office 2010 with installation by January 2011.

7. Continue to identify and develop CIS hybrid and online courses—both semester length and a series of short-term courses to serve the community (conduct a community needs survey).
 8. Estimate and project, based on potential retirements, the need to replace full time faculty in the CIS Department.
 9. Identify more adjunct faculty to deliver specialized training, i.e. programming languages, hardware & networking basics, web authoring & publishing (f2f, hybrid and online courses).
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4. Instruction:

- **Describe effective and innovative strategies used by faculty to involve students in the learning process. How has new technology been used by the department to improve student learning?**

Our department has long been a leader in distance-learning as a way to more actively involve our students in the learning process. We have one of the highest proportions of distance education courses in our district. Even our hybrid (DL & Classroom combinations) courses improve student learning by shortening and strengthening the feedback loop among student and teacher and curriculum.

Some CIS faculty have taken several staff development courses and other activities, such as the Annual Consortium Conference for Student Learning Communities, Introduction to Online Technology courses, Student Learning Outcomes and Assessment Workshops, and best practices to enhance the learning process for students. With the sharing of the main lecture room P111, the department will train and utilize the new Walk 'N Talk interactive whiteboard with multi functionality (touch sensitive, collaboration, Internet connectivity, video projection, etc.) to improve student learning. Formalized training is pending for spring 2010.

- **How does the department maintain the integrity and consistency of academic standards within the discipline?**

By holding periodic meetings, sharing best practices and recently team teaching a class, some department faculty maintain integrity and consistency of academic standards. In addition, periodic meetings to discuss pertinent matters, such as, Unit Plan, SLOs, and conducting program mapping, faculty and student evaluations will support consistency with the discipline.

The department meets regularly with the three other college CIS Departments to discuss discipline curriculum, best practices and other topics/concerns.

- **Discuss the enrollment trends of your department. What is the student demand for specific courses? How do you know? What do you think are the salient trends affecting enrollments?**

Based on the data provided by the PCCD Office of Research & Planning, student demand for CIS courses continues its moderate growth—especially for transfer and workforce preparation hybrid and online courses. Students gravitate toward instructional delivery that extends 24/7 access opportunities.

Almost from their inception, distance education courses have filled and closed before the semester begins. The same is not true for lecture/lab courses in the department. Classes which often were at the point of cancellation several years ago, now always have healthy online enrollments. While our entry level courses continue to attract lecture lab students, even that trend is changing.

Fall 2009 showed an increase in enrollments, productivity and student retention. Hybrid courses (combination of f2f and online) need further investigation. As technology costs lower, student access will increase supporting collaboration via the web and enhancing student learning. Some beginning students will require more personal contact to solidify their confidence in learning through technology instructional delivery system, especially being intrinsically motivated and successful. Online tutorial will support this trend.

As the CSU and UC systems tighten their budgets, transfer courses, such as CIS 1, 5 and certain programming languages will continue to grow. These courses are required for most baccalaureate programs—computer science or related disciplines.

**Are courses scheduled in a manner that meets student needs and demand?
How do you know?**

The data provided by the PCCD Office of Research & Planning is inconclusive. The departments cannot determine a major difference between morning and afternoon. Evening classes have fewer students, but hybrid and online classes have grown dramatically. It appears students like hybrid and online classes at Merritt College.

The department has scheduled courses which meet college and department requirements. We have noted numerous student requests for classes which close prior to the semester and have attempted to add extra sections when feasible. We use the volume and tenor of student-emails and enrollments as a measurement.

- **Recommendations and priorities.**

Determine curriculum plan (degree/certificate programs), then update existing, create new and continue to expand hybrid and online course offerings. Create new classes as outlined above in the Program Review Curriculum section.

Continue our successful distance education and hybrid courses in so far as possible in the face of continued loss of state funding and a decrease in our permanent staffing of the past few years. Hire one or two more full-time staff members to allow the department to better implement items number 1-4 above.

5. Student Success:

- **Describe student retention and program completion (degrees, certificates, persistence Rates ASK ANIKA about persistence rates 252, 201) trends in the department. What initiatives can the department take to improve retention and completion rates?**

Based on the College Average as identified by the PCCD Office of Research & Planning, the department's student retention and completion rates are at or below the College Average depending on ethnicity and other demographics.

With the exception of African American students, all other ethnic groups are completing courses. However, students are not obtaining degrees/certificates in the CIS Department. This is probably due to administrative downsizing of the department approximately 4 years—some faculty were transferred to other colleges, especially faculty teaching programming languages, some remaining faculty with personnel issues, low enrollments, lack of curriculum development and realignment, etc.

- **What are the key needs of students that affect their learning? What services are needed for these students to improve their learning? Describe the department's efforts to access these services. What are your department's instructional support needs?**

Key factors that affect learning are current degree/certificate programs that lead to transfer institutional programs and workforce preparation leading to immediate employment. Other key needs that affect student learning include access to relevant developmental education support courses, student learning communities, tutorial services, career planning & placement services.

Faculty are involved in various campus and discipline initiatives, i.e. Title III Grant, SLOAC activities, Student Learning Communities, peer tutoring, etc.

- **Describe the department's effort to assess student learning at the course level. Describe the efforts to assess student learning at the program level. In which ways has the department used student learning assessment results for improvement?**

The department needs to begin the process of assessing student learning at the course level. Once the department program mapping process is complete through curriculum direction and decisions, updating course outlines with SLOs and assessment, the department will use student learning assessment to improve its effectiveness.

- **Recommendations and priorities.**

1. Complete Program Level mapping and SLOs for all CIS Department degree/certificate programs by the end of Spring 2010. Determine whether department should reactivate the computer science approved degree program and reconfigured and/or deactivate current certificate programs.
2. Establish a 2 year cycle to update all course outlines with SLOs.
3. Seek coordination with Learning Center for tutorial services.
4. Establish Student Learning Communities with Mathematics Department.
5. Advocate for a College Career Advising and Placement Center.

6. Human and Physical Resources (including equipment and facilities)

- **Describe your current level of staff, including full-time and part-time faculty, classified staff, and other categories of employment.**

Within the next 4 years, 2 out of 3 full-time faculty will probably retire. Hire new faculty within the next 3 years. Fall 2009 the department included 3 full time and 3 part time faculty members. If the department reactivates the computer science degree and offers specialized trend setting curriculum, additional faculty must be identified to deliver instruction.

- **Describe your current utilization of facilities and equipment.**

The CIS Department's computer lab is being equipped with additional workstations. However, the electrical power panel is still an issue and power capacity must be increased.

One of the main lecture rooms was recently painted. New desks are needed. In the lower level of P building, the open lobby needs to be cleared and wireless computer access provided for students along with chairs and tables. The existing support offices, recently relocated to this is area, must be moved and reassigned to room2, i.e. P112 or P104.

- **Are the human and physical resources, including equipment and location, adequate for all the courses offered by your department (or program)? What are your key staffing and facilities needs for the next three years? Why?**

Building P is old. Second (2nd) level restrooms are inadequate (toilets do not flush, HVAC does not work). Second level classrooms have limited connectivity and no projection capability. New student and faculty furniture are needed in certain areas of the lab, i.e. staff office and faculty lab office include lab chairs.

Faculty offices are inadequate—lack of book shelves, definition of personal space, etc.

- **Recommendations and priorities.**

1. Hire faculty as recommended in this section above.
2. Request and order furniture via Measure A.
3. Continue to request the renovation of the female and male restrooms on the second level of P building.
4. CIS is slated to move into the new Science & Technology Building—5 to 6 years.

7. Community Outreach and Articulation

For vocational programs:

- **Describe the department's connection with industry. Is there an Advisory Board or Advisory Committee for the program? If so, how often does it meet? Is the program adequately preparing students for careers in the field? How do you know?**

The department must re-establish industry connections. An advisory committee has not met since the administrative downsizing of the CIS Department (last 5 to 6 years). Currently the college is working towards a college wide Career and Technical Education Advisory Committee. The program needs to assess whether or not if degrees/certificate programs are adequately preparing students for careers and build back its own or utilize the new college wide CTE Advisory Committee.

- **Have students completing the program attained a foundation of technical and career skills? How do you know? What are the completion rates in your program?**

Based on data provided to the department, course completion rates are good (except for African American students), but a follow up assessment is needed to ascertain the validity of technical and career skills achieved through courses and the remaining certificate programs.

- **What are the employment placement rates? Include a description of job titles and salaries. What is the relationship between completion rates and employment rates?**

This is another area where data is insufficient. Program completion follow-up is null and void, especially as it relates to employment rates for program completers.

- **What industry trends are most critical for the future viability of the program? How do you know? What are the implications of these trends for curriculum development and improvement?**

Based on the McKinsey Economic Report, 2009 Federal Stimulus Workforce target areas and State of California EDD Labor Market Information, the department knows curriculum adjustments and alignment is needed. Trends include recommendations and priorities as outlined in the Curriculum and Instruction sections of this report, i.e. Health Information Technology, “niche” in digital art, animation, etc. and transfer to four-year institutions.

For transfer programs:

- **Describe the department’s efforts in meeting with and collaborating with local 4-year institutions. Is the program adequately preparing students for upper division course work? How do you know?**

Some department faculty were previously involved in The Intersegmental Major Preparation Articulated Curriculum (IMPAC) project originated in the Intersegmental Committee of Statewide Academic Senates (ICAS) of the California Community College (CCC), University of California (UC), and California State University (CSU) systems. IMPAC is a unique faculty-designed, faculty-run project designed to assist the student transfer process from the community colleges to the UC and CSU systems for the baccalaureate degree.

Articulation agreement for CIS 1 and 5 are effective, but connections to servicing four institutions need to be reestablished, especially as it relates to the computer science curriculum area.

For all instructional programs:

- **Describe the department’s effort to ensure that the curriculum responds to the needs of the constituencies that it serves.**

The CIS Department is seeking to be part of the new Health Information Technology Curriculum—multi department curriculum. A summary proposal concept paper with labor market information and sample curriculum developed to respond to grant

opportunities was given to administrative staff here at the college and PCCD to assist with these efforts. These efforts would afford curriculum development opportunities allowing departments to work towards a joint articulated program/certificates.

- **Recommendations and priorities.**

Seek and apply for funding sources to support faculty efforts to develop new programs and meet workforce trends.

Definitions

Department/Program: For the purpose of the Instructional Program Review, a department/program is defined as a course or series of courses which share a common Taxonomy of Programs (TOP) number at the four digit level of specificity. TOP is a classification system for academic programs in the California Community Colleges.

FTEF (Full Time Equivalent Faculty): Also known as load equivalency. A full-time instructor teaching 15 lecture hours per week = 1.0 FTEF. One lecture hour = 50 minute instructional period. One lab hour = .8 of one lecture hour equivalent.

FTES (Full Time Equivalent Student): This unit is used as the basis for computation of state support for California Community Colleges. One student attending 15 hours a week for 35 weeks (one academic year) generates 1 FTES.

To approximate the FTES generated by a 17.5 week semester class use the formula:

$$\text{WSCH (Weekly Student Contact Hours from the census)} / 525 \times 17.5 = \text{FTES}$$

The WSCH of "contact hour" is the basic unit of attendance for computing FTES. It is a period of not less than 50 minutes of scheduled instruction.

For example, a class of 40 students meeting 3 hours per week generates 120 WSCH. To figure the FTES for the class, the formula yields:

$$120 / 525 \times 17.5 = 4.0 \text{ FTES}$$

FTES/FTEF: The ratio of full-time equivalent students to full-time equivalent instructors.

Persistence: The percent of students who attend one semester and then attend the subsequent semester (fall and spring semesters).

Retention: After the first census, the percent of students earning any grade but a "W" in a course or series of courses. To figure retention for a class, subtract the "W"s from the total enrollment and divide the number by the total enrollment.

Student Learning Outcomes: The desired knowledge, skills, abilities, and attitude that a student attains as a result of engagement in a particular set of collegiate/academic experiences.

Appendices

**Instructional Program Review
Resource Needs Reporting Template**

Division: Business & Technology		Department/Program: Computer Information Systems		Contact: Anita M. Black	
Item Identified in Program Review (justification)	Human Resources (Staffing)	Physical Resources (Facilities)	Technology and/or Equipment	Supplies Budget	Curriculum
	Hire 2 CIS Faculty in next 3 yrs. Student Instructional Assistant—computer lab	2 nd Level Building P restrooms Electrical Power computer lab	Furniture--Desk & Chairs		Computer Science reestablish degree Revamp Department certificates Join Health Information Technology Curriculum team

Integrated Planning Template

Division:		Department/Program:			Contact:	
Strategic Direction __:						
Institutional Goal ____:						
Objective:					Priority:	
Activities/Tasks	Responsibility Lead person(s)	Resources	Timeline	Comments	College Planning Link(s) *	
1.						
2.						
3.						
4.						
5.						

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*College Planning Links:

Budget Committee

Facilities Committee

Technology Committee

Curriculum Committee

Learning Assessment (SLO) Committee

**Student Learning Outcomes Reporting Template
(Course Level Outcomes)**

Division: Business & Technology		Department/Program: Computer Information Systems		Course:		Contact:
Student Learning Outcome	Outcome Measure	Definition of Data (Sample/Population)	Method of Data Collection & Source	Expected Level of Performance	Actual Level of Performance	Plan of Action

**Student Learning Outcomes Reporting Template
(Program Level Outcomes)**

Division:		Department/Program:		Contact:		
Student Learning Outcome	Outcome Measure	Definition of Data (Sample/Population)	Method of Data Collection & Source	Expected Level of Performance	Actual Level of Performance	Plan of Action