

Computer Science Department Meeting

Thursday, April 16, 2015

Agenda

1. Hiring Update
2. CTEA Grant Update
3. CTE 2 year Program Review
4. CTE Curriculum Review
5. Advisory Board Meeting
6. SLO's
7. Website Updates

EL CAMINO COLLEGE
MATHEMATICAL SCIENCES
Computer Science Department Meeting
April 16, 2015

Present: Carl Broderick, Susanne Bucher, Massoud Ghyam, Anna Hockman, Marta Maaza, Matthew Mata, Greg Scott, Jacquelyn Sims, Satish Singhal, Ralph Taylor

FOLLOW UP FROM LAST MEETING

Minutes were approved unanimously.

HIRING UPDATE

The initial full-time Computer Science interviews will be on 4/17/15. Five candidates will be interviewed. The finalists will be forwarded to the President's Office for final interviews.

CTEA GRANT UPDATE

The CTEA Grant proposal has been submitted.

One of the proposed items was upgraded laptops for the Computer Science faculty.

The amount of funding ECC receives for the CTEA Grant will determine how much each department will receive. Our proposal may not be fully funded.

R. Taylor suggested that we request funding for desktop computers. The CTEA Grant is an annual program, so suggestions can be taken now for next year's grant.

CTE 2 YEAR PROGRAM REVIEW

Now that the Computer Science department has been designated as a CTE program, we are obligated to conduct a two year review.

The review does not need to be a full update; a few supplemental questions will need to be answered. Here is a breakdown of CS faculty members assigned to each question:

- Question 1 – S. Singhal and M. Mata
- Question 2 – C. Broderick
- Question 3 – G. Scott
- Question 4 – M. Ghyam
- Question 5 – R. Taylor
- Question 5ab – G. Fry

CTE program reviews are due no later than 9/11/15. Please begin working on this over the summer.

CTE CURRICULUM REVIEW

All CSCI classes need to be reviewed.

CS faculty can make updates for the two year review, and do full updates on the six year cycle.

- S. Singhal will make updates to CS 2;
- G. Scott will make updates to CS 3 and CS 40;
- R. Taylor will make updates to CS 30 and 16.

For course reviews, instructors can go to the CurricUNET website and make updates there.

The Curriculum Committee would like an explanation included on any changes that are made. Before the first curriculum meeting, M. Maaza will summarize all the updates made and the CS faculty can take a vote on all of the changes.

ADVISORY BOARD MEETING

It was discussed that an Advisory Board should meet in early summer and beginning of fall.

It was suggested to have a lunch meeting with an Advisory Board on 5/22/15 from 11:30 a.m. – 2:00 p.m.

The Division Office will send out invitations and save-the-dates. Email advisory board member names to M. Maaza.

SLO'S

It was difficult to analyze data for SLO and PLO reports because each instructor had a different type of assessment.

S. Bucher suggested that if there are multiple sections of the same course, faculty members could come to an agreement and create a common rubric and assessment for that course. Doing so would help with analysis of the data.

S. Singhal will create a template grid on how to submit data.

There are three more TracDat workshop dates for faculty members that need to enter data into the system: 5/6/15, 5/12/15 and 5/13/15

Now that some of the assessment data has been entered, faculty need to follow-up on any action plans. The follow-up can be formal or informal. S. Bucher will provide direction on how to add follow-ups into TracDat.

WEBSITE UPDATES

The Computer Science website is outdated. The following changes should be made:

- Remove A. S. degree information
- Remove PASCAL and FORTRAN
- Replace C with Java
- Remove CS 10, 23, 25, 36, 55 and 60
- Replace CS 15P with CS 16
- Remove the following sentence: “(*Only one course from Computer Science 10 or 25 may be counted toward the certificate).

CAREER AND TECHNICAL EDUCATION – SUPPLEMENTAL QUESTIONS 2015

CTE programs must conduct a full program review every 4 years. The full review includes answering these supplemental questions. Every two years (once between full reviews) these supplemental questions must be answered and submitted to Academic Affairs for posting on the College website.

Use labor market data, advisory committee input, institutional data, and the provided CTE 2-year Program Review data to respond to the following questions:

1. How strong is the occupational demand for the program? As you analyze demand over the past 5 years and projected demand for next 5 years, address state and local needs for the program.
2. How does the program address needs that are not met by similar programs in the region?
3. What are the completion, success, and employment rates for the students? Discuss any factors that may impact completion, success, and employment rates. If applicable, what is the program doing to improve these rates?
4. If there is a licensure exam for students to work in their field of study, please list the exam and the pass rate. If there are multiple licensure exams in the program, include them all. Discuss any factors that may impact licensure exam pass rates. If applicable, what is the program doing to improve these rates?
5. Is the advisory committee satisfied with the level of preparation of program graduates? How has advisory committee input been used in the past two years to ensure employer needs are met by the program? Describe any advisory committee recommendations that the program is either unable to implement or is in the process of implementing.

California Education Code 78016 requires that the review process for CTE programs includes the review and comments of a program's advisory committee. **Provide the following information:**

- a. Advisory committee membership list and credentials
- b. Meeting minutes or other documentation to demonstrate that the CTE program review process has met the above Education Code requirement.



CTE 2 YEAR PROGRAM REVIEW: Computer Science

Topline:

- Computer Science jobs increased 4% over the past 5 years in Los Angeles County. However, jobs increased by double-digits in the state (+19%) and nation (+12%). Demand in the next five years (2014-2019) looks promising as jobs are projected to grow 5% in Los Angeles County and 10% for the state and nation. Current job posting reflect a demand for computer science related careers.

Occupations shown in report include:

- Computer and Information Systems Managers (11-3021)
- 15-1111 Computer and Information Research Scientists (15-1111)
- 15-1132 Software Developers, Applications (15-1132)
- 15-1133 Software Developers, Systems Software (15-1133)
- 15-1199 Computer Occupations, All Other (15-1199)

Key Figures:

Annual Openings Estimate (2014)	994
Related Completions (2013)	2,139
Current Job Postings	9,132

Completions for 2013-2014:

Associate	9
Certificate	2

Demand over the past 5 years (2009-2014):

Region	2009 Jobs	2014 Jobs	Change	% Change	Median Hourly Earnings
Los Angeles County	42,789	44,541	1,752	4%	\$52.55
State	224,133	265,860	41,727	19%	\$55.32
Nation	1,481,204	1,662,881	181,677	12%	\$47.71
7.5 mile zip radius	8,028	8,321	293	4%	\$52.61

Occupation Breakdown - % Change (2009 vs. 2014):

Occupation	Description	Los Angeles County	State	Nation	7.5 mile zip radius
15-1132	Software Developers, Applications	5%	24%	16%	4%
11-3021	Computer and Information Systems Managers	5%	15%	10%	4%
15-1133	Software Developers, Systems Software	4%	18%	12%	4%
15-1111	Computer and Information Research Scientists	1%	20%	12%	(1%)
15-1199	Computer Occupations, All Other	(1%)	7%	5%	(2%)
	Total	4%	19%	12%	4%

Demand for next 5 years (2014-2019):

Region	2014 Jobs	2019 Jobs	Change	% Change	Median Hourly Earnings
Los Angeles County	44,541	46,919	2,378	5%	\$52.55
State	265,860	292,226	26,366	10%	\$55.32
Nation	1,662,881	1,829,307	166,426	10%	\$47.71
7.5 mile zip radius	8,321	8,671	350	4%	\$52.61

Occupation Breakdown - % Change (2014 vs. 2019):

Occupation	Description	Los Angeles County	State	Nation	7.5 mile zip radius
15-1132	Software Developers, Applications	7%	13%	12%	6%
11-3021	Computer and Information Systems Managers	5%	8%	8%	3%
15-1133	Software Developers, Systems Software	4%	9%	11%	4%
15-1111	Computer and Information Research Scientists	4%	7%	9%	3%
15-1199	Computer Occupations, All Other	2%	5%	4%	1%
	Total	5%	10%	10%	4%

COMPUTER SCIENCE DEPARTMENT

Computer Science courses are designed primarily for students who wish to transfer to a four-year institution with a major in Computer Science, Physics, Mathematics, Engineering, or another technical major which will be concerned with the study or application of computer concepts. The courses offered provide instruction in UNIX as well as high-level languages (PASCAL, FORTRAN, C, C++), PC assembly languages and advanced programming concepts. It should be noted that all Computer Science courses have a math prerequisite.

For information on computer science courses offered, go to [Courses Offered](#).

A. S. DEGREE and CERTIFICATE of COMPLETION REQUIREMENTS

By completing the degree or certificate requirements, the student will apply program design principles and will acquire an understanding of data structures and their applications for an analysis and solution of numeric and non-numeric problems. The student will write programs using the C, C++, and assembly computer languages. All courses have a mandatory computer laboratory component requiring students to apply knowledge of the concepts from the lecture. Competencies are assessed regularly through examinations in the lecture component and through evaluation of computer laboratory activities.

Certificate of Completion

A Certificate of Completion will be awarded to the student who completes the following with a minimum grade of C:

Complete	the										Following:
And	three			courses							from:
Computer Science 1, 2;	3,	4,	10*,	15P,	23,	25*,	30,	36,	40,	55,	60,
Mathematics 210.											
Total											Units: 21

(*Only one course from Computer Science 10 or 25 may be counted toward the certificate.)

At least 17 units for this certificate must be completed at El Camino College.

Preparation for the Transfer Major

For information on specific university major requirements, please obtain a transfer curriculum guide sheet in the [Counseling Services Center](#), consult with your counselor, or visit the [Transfer Center](#). You may use the transfer major requirements to help you fulfill your associate degree requirements.

POSSIBLE CAREER PATHS

- Systems Analysts
- Programming Analysts
- Scientific/Engineering Applications Programmers
- Building Devices/Drivers
- Data Communications Analysts
- Telecommunications Specialists
- Software/Hardware Designers
- Web Designers

**Additional career information is available
from the professional society**

ACM ([Association for Computing Machinery](#))



El Camino College

PROGRAM OF STUDY

Computer Science

Computer Science Certificate of Achievement

By completing the degree or certificate requirements, the student will apply program design principles and will acquire an understanding of data structures and their applications for an analysis and solution of numeric and non-numeric problems. The student will write programs using the C, C++, and assembly computer languages. All courses have a mandatory computer laboratory component requiring students to apply knowledge of the concepts from the lecture. Competencies are assessed regularly through examinations in the lecture component and through evaluation of computer laboratory activities.

A Certificate of Achievement will be granted upon completion of the program requirements. At least 16 units required for the certificate must be completed at El Camino College.

Certificate Requirements

	Units
CSCI 1 Problem Solving and Program Design Using C++	4
CSCI 2 Introduction to Data Structures	5

three courses from:

CSCI 3 Computer Programming with Java (4)	
CSCI 4 Computer Science Programming in C# (4)	
CSCI 12 Programming for Internet Applications Using PHP, JavaScript, and XHTML (5)	
CSCI 30 Advanced Programming in C++ (4)	
CSCI 40 Introduction to UNIX and LINUX Operating Systems (4)	
CSCI 60 Programming with ASP.NET and C# in Web-based Computer Science Applications (4)	
MATH 210 Introduction to Discrete Structures (4)	

Total Units

21 -
22

Last Reviewed and/or Revised by Massoud Ghyam on 11-08-2011

College Curriculum Committee Approval Date 02-28-2012

Last Board Approval Date

Original Board Approval Date