El Camino College
Business Division
Computer Information Systems Department
Program Review – Fall 2006
Conducted by: El Camino's CIS Department

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I. Overview

A. Description of Program

Program

The computer information systems (CIS) program strives to meet the educational needs of our students by offering comprehensive instruction which can lead to a degree or certificate of competence or completion, career placement or advancement, and transfer of lower level courses to four-year universities. A variety of courses enable students to design graphical user interfaces, perform systems analysis, develop web pages, spreadsheets, and databases, and implement and maintain local area networks. Completion of requirements for the major can provide students with an associate in science degree in computer information systems from El Camino College, and can lead to career opportunities as software specialists, web programmers, database developers, systems analysts, or network administrators.

Our Students

The following observations are based on the information provided by Institutional Research from over five hundred students who completed our program review student questionnaires. The results are intended to provide an understanding of the majority of our CIS student population. Only the highest percentages are shown, and are based on the number of respondents to each question.

Average age: **25.6** CIS 13 students only (79% of our population): **23.9**
Educational attainment: **High school diploma (71.12%)**
Educational status: **Continuing student (51.87%)** **First term at ECC (25.74%)**
*** Time of classes:** **Daytime (76.5%)**
Employed: **21 hours a week or more (51.48%), with more than 30 hours (31.24%)**
Major: **Business (36.54%), CIS (16.31%), undeclared (17.68%)**
Purpose in taking CIS classes: **AA/AS degree (49.51%), undecided/other (19.45%)**
* Source: IR "standard data set"

B. Status of Previous Recommendations

There has never been a program review previously conducted for the CIS program.

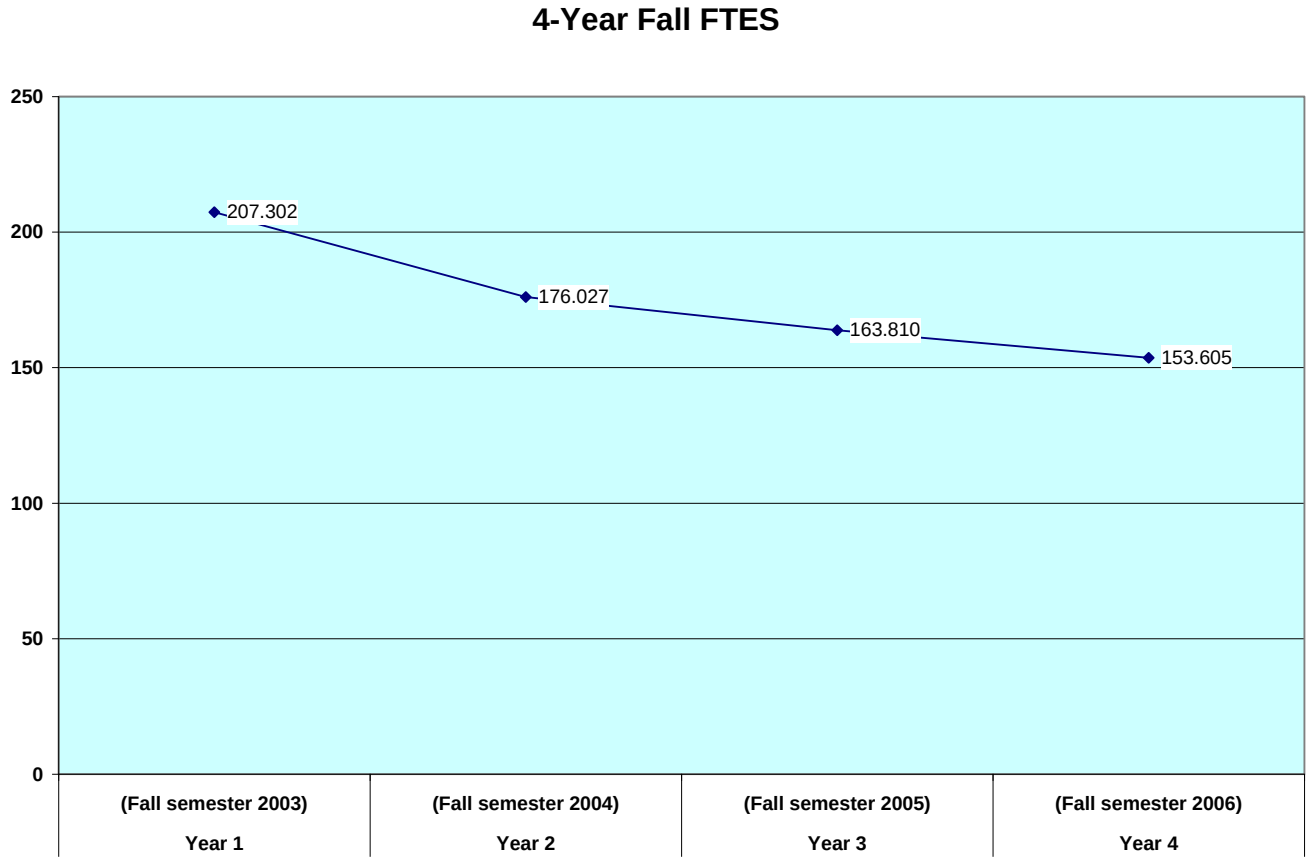
II. Program Statistics

A. Demand: FTES by Course/Program

Instructions: Analyze the **FTES by Course/Program** using 1st census data and answer the following questions. At a minimum, your analysis must include a 3-year cycle comparing like semesters.

Course	Year 1 (Fall semester 2003)	Year 2 (Fall semester 2004)	Year 3 (Fall semester 2005)
CIS 3; Intro to Software Applications	Data Not Avail	Data Not Avail	Data Not Avail
CIS 13; Intro to Computers	156.001	140.535	131.767
CIS 16; Intro to Visual Basic.Net	4.742	2.874	3.592
CIS 17; Intermediate Visual Basic.Net	Not offered	Not offered	Not offered
CIS 18; Systems Analysis and Design	4.598	4.023	3.592
CIS 19; Intro to Internet/Web Publishing	5.03	3.736	3.736
CIS 20; PC Operating Systems/Windows	Not offered	Not offered	Not offered
CIS 26; Using Spreadsheets	6.036	4.311	3.592
CIS 27; Using Spreadsheet Macros	4.311	Not offered	Not offered
CIS 28; Using Database Applications	8.622	7.041	4.311
CIS 29; Advanced Database Applications	Not offered	2.874	3.018
CIS 30; Intro to e-Commerce	5.173	3.449	3.161
CIS 40; Microcomputer Operations	3.161	1.724	2.874
CIS 46; Local Area Network System	Not offered	Not offered	Offered/cancelled
CIS 47; Windows Advanced Admin.	Offered/cancelled	Not offered	Not offered
CIS 48; Network Infrastructures	Not offered	Not offered	Not offered
CIS 49; Directory Services Infrastructures	Not offered	Not offered	Not offered
CIS 80; Oracle Application Programming	Not offered	Not offered	Not offered
CIS 83; Database Administration/Oracle	Not offered	Not offered	Not offered
CIS 133; Web Programming Concepts	9.628	5.46	Offered/cancelled
CIS 134; Web Programming	Not offered	Offered/cancelled	Offered/cancelled
CIS 140; Data Communications (Cisco 1)	Data Not Avail.	Data Not Avail.	Data Not Avail.
CIS 141; Networking Microcomputers (Cisco 2)	Data Not Avail.	Data Not Avail.	Data Not Avail.
CIS 142; Implement/Admin Routers (Cisco 3)	Data Not Avail.	Data Not Avail.	4.167
CIS 143; LAN/WAN Router Config. (Cisco 4)	Data Not Avail.	Data Not Avail.	Data Not Avail.
Totals	**207.302**	**176.027**	**163.810**

Source: Business Division FTES reports
Note: "Not offered" per ECC schedule of classes for the indicated fall semester



1. Given the data, can you recognize any trends in course demand in any of the Program's courses?

   Although many sources, like the U.S. Department of Labor, indicate that IT (information technology) jobs are again experiencing growth, student's perceptions are slow to change and they still see the IT job market as uncertain due to events like the "dot-com" bust and recent off-shoring trends. This, along with other factors like tuition increases has unfortunately led to a decrease in FTES over the last four years.

2. What are you doing to respond to trends?

   Within the last year the CIS department:

   - Hosted an open-house for local high school counselors and computer technology teachers informing them of the continued upswing in the IT job market and the accompanying demand for employees with computer skills.
   - Made the same presentation on current IT job market trends to the students in many of our CIS sections with the hope that it will encourage them to take additional CIS courses.
   - Met with a representative of the Community Advancement department regarding brochures and other advertising methods that could be employed to increase awareness of our program to local businesses and high schools.

- Just completed a meeting (November 27th) with the new representative of the Community Advancement department to discuss what had been done/not done in the past and our opinions on what worked well and what hasn't worked well.
- Printed color posters indicating the classes we offer and the skills that can be learned in those classes. We then placed these posters within our classrooms and main corridors of the Business and Math & Computer Science buildings.

3. Should a recommendation be written addressing the data? ✓ Yes ____ No

   The CIS department should:
   - Continue to partner with the high schools and local businesses that our potential students live in/work for.
   - Continue to communicate with the local community to market our El Camino College programs, and to seek guidance in the evolution of the CIS program so that it directly meets the current and future needs of the student and business community of the South Bay.

B. Offerings: Fill Rate*

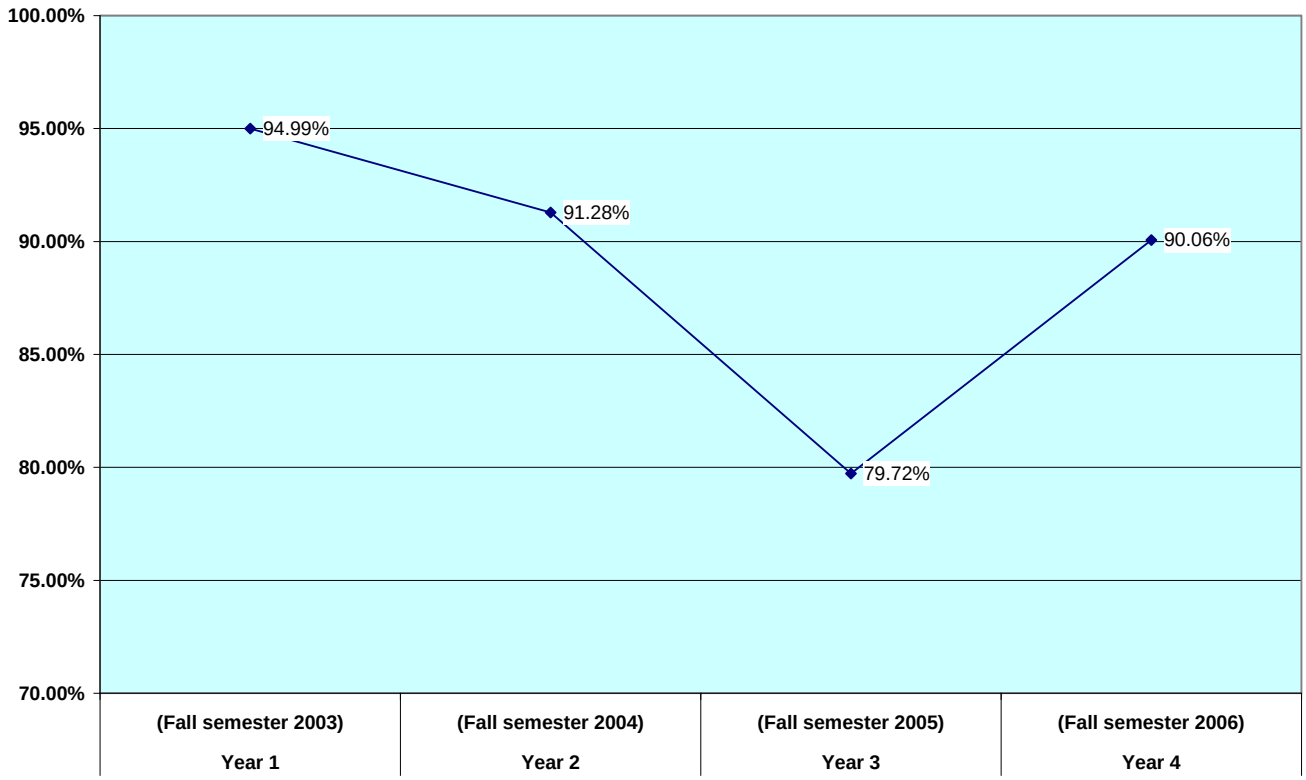
Instructions: Review and analyze the **fill rate data** (including the fill rate per course for both day and evening), provided by Institutional Research for this program for a three year cycle and answer the following questions:

Average fill rate of courses in program: How does this program compare to:

Percent of fill of each class at census.

	Year 1	Year 2	Year 3
Day classes			
CIS 13; Intro to Computers	99.43%	93.41%	79.33%
CIS 16; Intro to Visual Basic.Net	81.82%		
CIS 17; Intermediate Visual Basic.Net			
CIS 18; Systems Analysis and Design	72.73%	63.64%	56.82%
CIS 19; Intro to Internet/Web Publishing	81.82%		50.00%
CIS 26; Using Spreadsheets	109.09%		68.18%
CIS 27; Using Spreadsheet Macros	77.27%		
CIS 28; Using Database Applications	84.09%	104.55%	81.82%
CIS 29; Advanced Database Applications			
CIS 30; Intro to e-Commerce	86.36%		
CIS 40; Microcomputer Operations			
CIS 80; Oracle Application Programming			
CIS 83; Database Administration/Oracle			
CIS 133; Web Programming Concepts	78.79%	86.36%	
CIS 134; Web Programming			
CIS 140; Data Communications (Cisco 1)			
CIS 141; Networking Microcomputers (Cisco 2)			
CIS 142; Implement/Admin Routers (Cisco 3)			131.82%
CIS 143; LAN/WAN Router Config. (Cisco 4)			
Evening classes			
CIS 13; Intro to Computers	106.06%	78.79%	83.64%
CIS 16; Intro to Visual Basic.Net	68.18%	90.91%	113.64%
CIS 17; Intermediate Visual Basic.Net			
CIS 18; Systems Analysis and Design			
CIS 19; Intro to Internet/Web Publishing	77.27%	118.18%	68.18%
CIS 26; Using Spreadsheets	81.82%	136.36%	45.45%
CIS 27; Using Spreadsheet Macros	59.09%		
CIS 28; Using Database Applications	104.55%	118.18%	54.55%
CIS 29; Advanced Database Applications		90.91%	95.45%
CIS 30; Intro to e-Commerce	77.27%	109.09%	100.00%
CIS 40; Microcomputer Operations		54.55%	90.91%
CIS 80; Oracle Application Programming			
CIS 83; Database Administration/Oracle			
CIS 133; Web Programming Concepts	68.18%	86.36%	
CIS 134; Web Programming			
CIS 140; Data Communications (Cisco 1)			
CIS 141; Networking Microcomputers (Cisco 2)			
CIS 142; Implement/Admin Routers (Cisco 3)			
CIS 143; LAN/WAN Router Config. (Cisco 4)			
Totals (day and evening)	**94.99%**	**91.28%**	**79.72%**

Source: Business Division FTES reports



1. Given the data, is the program in a growth mode? _____ Yes ___✓___ No

   Even after rebounding from a noticeable decrease in 2005, the fill rate has still declined from 94.99% in 2003 to 90.06% in 2006.

2. What adjustments are indicated?

   The CIS department needs to offer new classes that cover current technologies that our students either need on the job, want in their personal lives, or require for transfer to four-year institutions.

3. Should a recommendation be written that addresses the data? ___✓___ Yes _____ No

   The CIS department should:
   - Make use of our advisory board to find the types of new IT skills (and therefore the new classes that we should offer) that they require of CIS job applicants.
   - Continue to check the new CIS offerings of neighboring institutions.
   - Make available flexible online classes that a segment of our students indicate they would like.

C. Scheduling: Student Satisfaction with Scheduling

Instructions: Complete the chart below. Indicate the time when sections of courses in the program are currently scheduled to start. Analyze the data provided by Institutional Research on student satisfaction with scheduling in the program and answer the questions.

Fall 2006 and summer 2006 (for summer column only)

Course	During the early morning before 10 am	During the late am/early pm 10am – 1:55 pm	During the late afternoon 2 pm -4:25 pm	During the evening 4:30 & later	During the weekend	During the summer	Via Telecourse	Via Online
CIS 13; Intro to Computers	**9**	**8**	**2**	**5**	**2 (Sat)**	**3 (am)** **1 (pm)**		
CIS 16; Intro to Visual Basic.Net								
CIS 17; Intermediate Visual Basic.Net								
CIS 18; Systems Analysis and Design				**1**				
CIS 19; Intro to Internet/Web Publishing			**1**					
CIS 26; Using Spreadsheets			**1**	**1**				
CIS 27; Using Spreadsheet Macros				**1**				
CIS 28; Using Database Applications	**1**							
CIS 29; Advanced Database Applications								
CIS 30; Intro to e-Commerce				**2**				
CIS 40; Microcomputer Operations				**1**				
CIS 80; Oracle Application Programming								
CIS 83; Database Administration/Oracle								
CIS 133; Web Programming Concepts								
CIS 134; Web Programming				**1**				
CIS 140; Data Communications (Cisco 1)				**1**				
CIS 141; Networking Microcomputers (Cisco 2)				**1**				
CIS 142; Implement/ Admin Routers (Cisco 3)								
CIS 143; LAN/WAN Router Config. (Cisco 4)								

1. What (if anything) is indicated by the student satisfaction with scheduling?

Student Satisfaction With the Scheduling of Classes Offered:

	5 (Very Satisfied)		4		3		2		1 (Very Unsatisfied)	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
Before 10:00 am	167	**35.61**	100	**21.32**	98	**20.90**	41	**8.74**	63	**13.43**
From 10:00 am to 1:55 pm	182	**38.32**	130	**27.37**	92	**19.37**	33	**6.95**	38	**8.00**
4:30 and later	113	**24.25**	85	**18.24**	113	**24.25**	76	**16.31**	79	**16.95**
The weekend	81	**17.88**	67	**14.79**	94	**20.75**	56	**12.36**	155	**34.22**
The summer intersession	136	**29.50**	112	**24.30**	121	**26.25**	34	**7.38**	58	**12.58**
The winter intersession	132	**28.70**	108	**23.48**	128	**27.83**	36	**7.83**	56	**12.17**
Through on-line instruction	104	**22.66**	91	**19.83**	151	**32.90**	52	**11.33**	61	**13.29**
Through telecourses	53	**11.55**	67	**14.60**	153	**33.33**	80	**17.43**	106	**23.09**
Totals	**968**		**760**		**950**		**408**		**616**	

Source: CIS Program Review Student Questionnaires (question #11)

If you were to take another CIS course, you would want it scheduled on:

	Frequency	Percent
One day a week	103	23.62%
Monday/Wednesday	142	32.57%
Tuesday/Thursday	141	32.34%
Monday/Wednesday/Friday	24	5.50%
Weekend	26	5.96%
Totals	**436**	**100.00%**

Source: CIS Program Review Student Questionnaires (question #23)

Your preferred time for starting a class is:

	Frequency	Percent
7 to 9 a.m.	91	19.91%
9 a.m. to 12 p.m.	219	47.92%
12 to 3 p.m.	42	9.19%
3 to 6 p.m.	33	7.22%
6 to 7 p.m.	72	15.75%
Totals	**457**	**100.00%**

Source: CIS Program Review Student Questionnaires (question #24)

The results of our student questionnaires indicate that there is a relatively consistent satisfaction (response of either 5 or 4) with our course offerings during the day, summer, and winter intersession. Other results are somewhat confusing as our students indicated that they are as happy with our course offerings during the winter intersession as they are during the pre-10:00 a.m. and summer intersession, and noticeably happier then with our "after 4:30" offerings even though we did not offer any classes during last years winter intersession, and are not offering any during this years winter intersession.

Far and away, the format that CIS students indicated that they would be least interested in taking a class were three meetings per week classes such as Monday/Wednesday/Friday (5.50%), and weekend classes (5.96%).

2. Are there time periods of high student demand which are not being addressed? ✓ Yes ___ No
How could such demand be addressed?

   The student surveys indicate that there is a slight drop in satisfaction for the classes that we offer after 4:30 p.m., and a more pronounced drop in satisfaction for the classes that we offer on the weekend. It should be noted that although 46.58% of our students indicated dissatisfaction (response of either 1 or 2) with the classes that we offered on the weekend, less than 6% of them said that they would actually want to take a class on the weekend.

   The responses for "online" and "telecourses" are again confusing. Our students indicated that they are as happy with our online offerings as they are with the "after 4:30" offerings although we have never offered online classes. Student satisfaction with telecourses is much lower than with online courses with only 26.14% of our student population satisfied with those offerings. Once again, however, although over one-quarter of are students indicated that they are happy, the fact remains that we have never offered any telecourses yet.

3. Should a recommendation be written addressing this area? ✓ Yes ____ No

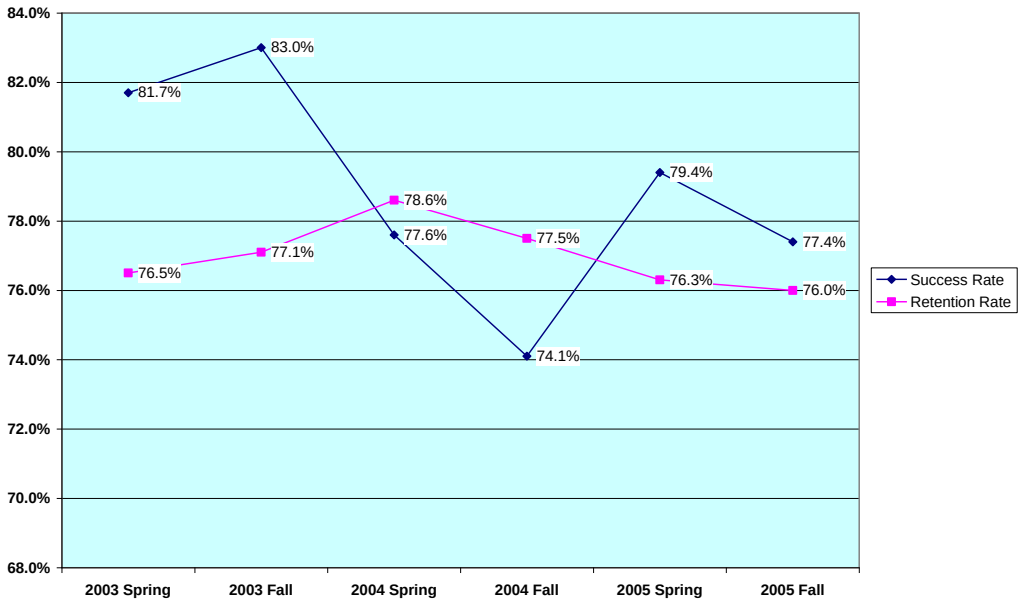
   Although the survey results are somewhat confusing, there seems to be a growing segment of our population that desires an online version of our classes. Our department is responding to this need by initially offering two sections of CIS 13 and one section of CIS 141 online for the spring 2007 semester.

D. Retention and Success

	Fall 2003		Fall 2004		Fall 2005	
Course	Success*	Retention	Success*	Retention	Success*	Retention
CIS 3; Intro to Software Applications	88.1%	78.7%	81.3%	64.9%	64.2%	66.3%
CIS 13; Intro to Computers	78.8%	78.1%	70.7%	77.6%	75.2%	77.1%
CIS 16; Intro to Visual Basic.Net	84.0%	71.9%	92.9%	73.7%	93.3%	60.0%
CIS 17; Intermediate Visual Basic.Net						
CIS 18; Systems Analysis and Design	87.0%	76.7%	75.0%	96.4%	91.3%	92.0%
CIS 19; Intro to Internet/Web Publishing	92.9%	87.5%	88.9%	100.0%	82.6%	88.5%
CIS 20; PC Operating Systems/Windows						
CIS 26; Using Spreadsheets	96.8%	79.5%	65.4%	83.3%	94.7%	76.0%
CIS 27; Using Spreadsheet Macros	100.0%	71.4%			94.7%	76.0%
CIS 28; Using Database Applications	84.1%	80.0%	88.6%	72.9%	82.6%	74.2%
CIS 29; Advanced Database Applications			93.3%	83.3%	100.0%	64.7%
CIS 30; Intro to e-Commerce	79.2%	70.6%	75.0%	60.0%	77.8%	81.8%
CIS 40; Microcomputer Operations	92.9%	63.6%	91.7%	100.0%	100.0%	70.0%
CIS 46; Local Area Network System						
CIS 47; Windows Advanced Admin.						
CIS 48; Network Infrastructures						
CIS 49; Directory Services Infrastructures						
CIS 80; Oracle Application Programming						
CIS 83; Database Administration/Oracle						
CIS 133; Web Programming Concepts	88.0%	41.7%	88.2%	48.6%	75.0%	72.7%
CIS 134; Web Programming						
CIS 140; Data Communications (Cisco 1)	94.4%	58.1%	70.4%	90.0%	87.5%	76.2%
CIS 141; Networking Microcomputers (Cisco 2)	89.5%	81.0%	95.0%	80.0%	92.9%	93.3%
CIS 142; Implement/Admin Routers (Cisco 3)	100.0%	100.0%	71.4%	87.0%	92.9%	56.0%
CIS 143; LAN/WAN Router Config. (Cisco 4)	97.6%	95.3%	92.9%	87.5%		
Department Totals	83.0%	77.1%	74.1%	77.5%	77.4%	76.0%
Division Totals	82.0%	76.8%	79.1%	75.6%	80.6%	72.5%

Retention: The percentage of students retained in courses out of all students enrolled in the course as of the first census date.
Success: The percentage of students who "succeed" (grade of A, B, C or CR) in the course out of all students who receive a grade.
* Withdrawals (W) have been excluded when calculating success rates.
Source: Institutional Research success and retention rate reports

3-Year Success & Retention Rates



1. Retention

Instructions: Review and analyze the data on **retention (course completion with a grade other than W)** over a three-year cycle comparing day to evening classes, term to term (e.g. fall to spring, spring to summer, etc.), and course levels.

1. Given the data, what trends are observed?

   Our retention rates have remained relatively consistent over the six-semester period (spring 2003 through fall 2005) with only a change of 2.6% from the highest to the lowest. For the same time period the CIS department's retention rate was approximately 2% higher than the Business division's retention rate.

2. Should a recommendation be written addressing the data? ___ Yes ✓ No

2. Success Rate

Instructions: Review and analyze the data on **success rate (students who earned a grade of A,B,C, or Credit)** over a three-year cycle comparing day to evening classes, term to term (e.g. fall to spring, spring to summer, etc.), and course levels and answer the following questions:

1. What trends are observed?

   Our success rates are much more varied than our retention rates with almost a 9% change from the highest to the lowest. For the same time period the CIS department's retention rate is 2.4% below the Business division's retention rate.

   CIS 13 is our most heavily enrolled class, accounting for more than three-quarters of total enrollment. Although the success rates for this course have remained in the seventy percent range, this is still 3.3% below the average of other CIS courses, and 5.66% below the average of the Business Division.

2. Should a recommendation be written addressing the data? ✓ Yes ____ No

   In order to spend more time in lab with our students we have returned the class size for some of the CIS 13 classes this semester from forty-four back to the original limit of twenty-two. Although early indications are encouraging, the CIS department is waiting until the end of the semester to compare the performances of sections of different sizes.

III. Curriculum
A. Course and Content

Note: The CIS faculty have committed to completing student learning outcomes for all of the CIS classes by June 2007

1. Courses Not Offered

Instructions: Indicate the total number of courses in the program and list all courses in the program which are in the catalog but have not been offered in the last three years. Refer to this list to answer the following questions:

Courses/Sections Offered Over the Past Three Years							
Course	**2003 Spring**	**2003 Fall**	**2004 Spring**	**2004 Fall**	**2005 Spring**	**2005 Fall**	**Totals**
CIS 3	8	4	4	4	6	4	30
CIS 13	31	32	23	29	23	31	169
CIS 16	2	2	2	1		1	8
CIS 17			1				1
CIS 18	1	2	1	1	1	1	7
CIS 19	4	2	4	2	2	2	16
CIS 20 *	Not offered	Not offered	Not offered	Not offered	Not offered	Not offered	**0**
CIS 26	4	2	4	2	3	2	17
CIS 27		2			1		3
CIS 28	2	4	2	3	2	2	15
CIS 29	2			2		1	5
CIS 30	4	2	2	1	1	1	11
CIS 40	2	2	2	2	3	1	12
CIS 46	2				1	1	4
CIS 47		2					2
CIS 48 *	Not offered	Not offered	Not offered	Not offered	Not offered	Not offered	**0**
CIS 49 *	Not offered	Not offered	Not offered	Not offered	Not offered	Not offered	**0**
CIS 80			2		1		3
CIS 83 *	Not offered	Not offered	Not offered	Not offered	Not offered	Not offered	**0**
CIS 133	4	4	4	2	4	2	20
CIS 134	2		2	2		1	7
CIS 135	2						2
CIS 140	2	1	2	2	1	1	9
CIS 141	2	1	2	2	1	1	9
CIS 142		1	1	1	1	1	5
CIS 143	1	1	1	1	1		5
Totals	75	64	59	57	52	53	360

* Not offered within the last three years.
The numbers in this table reflect the number of sections offered. Some were offered, but then cancelled due to low enrollment.

1. Given the data, are there courses that should be inactivated? ✓ Yes ____ No

CIS 17 (Intermediate Visual Basic.Net). The enrollments for CIS 16 (Visual Basic.Net) have not been good over the last few years which have made this advanced sequential class difficult to fill.

The course outlines for CIS 133 and 134 have been re-written and increased from three to four units, expanding it to include new topics and taking some of the curriculum from CIS 135. This was necessary because through student surveys it was determined that the original sequence of classes was too long. As a result, CIS 135 has been inactivated.

2. If there are courses not offered in the last three years that you do not wish to inactivate, what reasons are there to keep them active?

CIS 20

Offered as a half-semester class, CIS 20 (PC Operating Systems/Windows) was a course that was very appealing to our students when Microsoft's graphical operating system was released in the early 1990s. Over the years, as our students became more experienced in computers before they graduated from high school the changes Microsoft made to their operating system weren't great enough to interest them to invest eight weeks of their time.

The changes to Microsoft's newest operating system (Vista), however, are so dramatic and major that the course outline has recently been rewritten to focus on it. The department feels that our students will once again show a renewed interest in this class.

We feel that the rest of our courses that have not filled well over the last three years can become viable again if we modify them over the next several semesters. A series like our CIS 46 through 49 which has become somewhat outdated for example, should show renewed interest when we migrate to newer technologies like Microsoft Vista (desktop) and Microsoft Longhorn (server).

3. Should a recommendation be written addressing the data? ✓ Yes ____ No

The recommendations are listed above in #2.

2. Course Revisions and Additions

Instructions: Utilize the Course Review Chart from the Curriculum Office to answer the following:

1. Are there course outlines that should be revised? ✓ Yes _____No

The CCC recommends each course outline to be updated at least once every five years

Course	**Prior**	**97-98**	**98-99**	**99-00**	00-01
CIS 16; Intro to Visual Basic.Net					X
CIS 17; Intermediate Visual Basic.Net					X
CIS 19; Intro to Internet/Web Publishing					X
CIS 20;				**X**	
CIS 26; Using Spreadsheets	96-97				
CIS 27; Using Spreadsheet Macros	96-97				
CIS 28; Using Database Applications	96-97				
CIS 29; Advanced Database Applications		**X**			
CIS 30; Intro to e-Commerce					X
CIS 46; Local Area Network System					X
CIS 48; Network Infrastructures					X
CIS 49; Directory Services Infrastructures					X
CIS 80; Oracle Application Programming					X

2. Are there courses inconsistent with current practice in the field? ___ Yes ✓ No

3. Should new courses to be added to the program? ✓ Yes _____ No

In addition to Microsoft's Vista operating system, the CIS department is going to explore the viability of developing the following courses:

- Data-driven applications
- Geographic information systems
- Help desk
- Programming for wireless devices
- Wireless operating systems
- XML

4. Are adjustments necessary to the conditions of enrollment (Prerequisite, Corequisite, Recommended Preparation, and Enrollment Limitations) for a specific course to increase student success?

✓ Yes ___ No ____ Uncertain

Currently the recommended preparation for CIS 13 is eligibility for English 2R. To increase our student's chances of success we feel a need to change eligibility for English 2R to a prerequisite, and also add eligibility for Math 40 as a prerequisite.

5. If the program offers a degree and/or certificate, list them and indicate when the requirements were last reviewed?

Our degree and all of our certificate requirements were reviewed and updated this semester.

CIS Major

Required Courses:

CIS 13 Introduction to Computers
CIS 18 Systems Development and Analysis
CIS 19 Introduction to the Internet and Web Publishing

Plus one of the following options:

CIS 26 Using Spreadsheets
CIS 28 Using Database Applications

OR:

CIS 46 Local Area Network Systems
CIS 47 Novell Netware Advanced Administration

OR:

CIS 140 Data Communications Cisco 1
CIS 141 Networking Microcomputers Cisco 2

Choose two courses from the following:

CIS 16 Introduction to Visual Basic.Net
CIS 17 Intermediate Concepts in Visual Basic.Net
CIS 27 Using Spreadsheet Macros
CIS 29 Advanced Database Applications
CIS 30 Introduction to E-Commerce
CIS 80 Oracle Application Programming
CIS 83 Database Administration using Oracle
CIS 133 Web Programming Concepts
CIS 142 Implementing and Administering Network Routers Cisco 3
CIS 143 LAN and WAN Router Configurations Cisco 4

Total Units: 21-22

Cisco Networking Administration

Certificate of Completion

A Certificate of Completion will be granted upon completion of the required courses with a minimum grade average of 2.0 (C) is necessary in the required (15-16) units. A minimum of 9 Computer Information Systems units must be completed at El Camino College.

Required Courses:

CIS 140 Data Communications Cisco 1

CIS 141 Networking Microcomputers Cisco 2

CIS 142 Implementing and Administering Network Routers Cisco 3

CIS 143 LAN and WAN Router Configurations Cisco 4

Choose one course from the following:

CIS 16 Introduction to Visual Basic.Net

CIS 80 Oracle Application Programming

CIS 133 Web Programming Concepts

Total Units: 15-16

Database Administration*

Certificate of Completion

A Certificate of Completion will be granted upon completion of the required courses with a minimum grade average of 2.0 (D) is necessary in the required 19 units. A minimum of 12 Computer Information Systems units must be completed at El Camino College.

Required Courses:

CIS 18	Systems Development and Analysis
CIS 28	Using Database Applications
CIS 29	Advanced Database Applications
CIS 80	Oracle Application Programming
CIS 83	Database Administration using Oracle

Choose one course from the following:

CIS 16	Introduction to Visual Basic.Net
CIS 19	Introduction to the Internet and Web Publishing
CIS 46	Local Area Network Systems

Total Units: 19

*** Certificate Pending Chancellors' Approval**

E-Commerce*

Certificate of Completion

A Certificate of Completion will be granted upon completion of the required courses with a minimum grade average of 2.0 (C) is necessary in the required (30-31) units. A minimum of 12 Computer Information Systems units must be completed at El Camino College.

Required Courses:

Bus 25	Introduction to Business
CIS 19	Introduction to the Internet and Web Publishing
CIS 30	Introduction to E-Commerce
CIS 133	Web Programming Concepts
CIS 134	Web Programming I
CIS 135	Web Programming II
CIS 140	Data Communications Cisco 1
LAW 31	Commerce Law

Choose two courses from the following:

BUS 12	Advertising
BUS 14	Marketing
BUS 18	International Aspects of Business
CIS 16	Introduction to Visual Basic.Net
CIS 28	Using Database Applications
CIS 29	Advanced Database Applications
CIS 80	Oracle Application Programming

Total Units: 30-31

*** Certificate Pending Chancellors' Approval**

Web Programming

Certificate of Completion

A Certificate of Competence will be granted upon completion of the required courses and a minimum grade average of 2.0 (C) is necessary in the required (15) units. A minimum of nine Computer Information Systems units must be completed at El Camino College.

Required Courses:

CIS 30	Introduction to E-Commerce
CIS 133	Web Programming Concepts
CIS 134	Web Programming I
CIS 135	Web Programming II

Choose one courses from the following:

BUS 12	Advertising
CIS 28	Using Database Applications
LAW 31	E-Commerce Law

Total Units: 15

Microcomputer Support and Network Management

Certificate of Competence

A Certificate of Competence will be granted upon completion of the required courses with a minimum grade average of 3.0 (B) is necessary in the required (33-34) units. A minimum of 12 Computer Information Systems units must be completed at El Camino College.

CIS 13 Introduction to Computers
CIS 19 Introduction to the Internet and Web Publishing
CIS 40 Microcomputer Operations

Choose four courses from the following:
CIS 16 Introduction to Visual Basic.Net
CIS 18 Systems Development and Analysis
CIS 28 Using Database Applications
CIS 29 Advanced Database Applications
CIS 80 Oracle Application Programming
CIS 83 Database Administration using Oracle

Plus one of the following groups:
CIS 140 Data Communications Cisco 1
CIS 141 Networking Microcomputers
CIS 142 Implementing and Administering Network Routers Cisco 3
CIS 143 LAN and WAN Router Configurations Cisco 4

OR

CIS 46 Local Area Network Systems
CIS 47 Microsoft Windows Advanced Administration
CIS 48 Network Infrastructure in a Windows Environment
CIS 49 Directory Services Infrastructure in a Windows Environment

Total Units: 33-34

Microcomputer Applications

Certificate of Competence

A Certificate of Competence will be granted upon completion of the required courses with a minimum grade average of 2.0 (C) is necessary in the required (30-33) units. A minimum of 12 Computer Information Systems units must be completed at El Camino College.

Required Courses:

CIS 13	Introduction to Computers
CIS 16	Introduction to Visual Basic.Net **or** CIS 133 Web Programming Concepts
CIS 18	Systems Development and Analysis
CIS 26	Using Spreadsheets
CIS 28	Using Database Applications
CIS 40	Microcomputer Operations

Choose three courses from the following:

CIS 27	Using Spreadsheet Macros
CIS 29	Advanced Database Applications
CIS 46	Local Area Network System Administration
CIS 80	Oracle Application Programming
CIS 83	Database Administration Using Oracle
CIS 134	Web Programming

Choose one course from the following:

BUS 55	Advanced Microsoft Office - Integrated Software Applications
CIS 19	Introduction to the Internet and Web Publishing
CIS 30	Introduction to E-Commerce

Total Units: 30-33

Cisco Networking Administration

Certificate of Competence

A Certificate of Competence will be granted upon completion of the required courses with a minimum grade average of 3.0 (C) is necessary in the required (15-16) units. A minimum of 9 Computer Information Systems units must be completed at El Camino College.

Required Courses:

CIS 140 Data Communications Cisco 1

CIS 141 Networking Microcomputers Cisco 2

CIS 142 Implementing and Administering Network Routers Cisco 3

CIS 143 LAN and WAN Router Configurations Cisco 4

Choose one course from the following:

CIS 16 Introduction to Visual Basic.Net

CIS 80 Oracle Application Programming

CIS 133 Web Programming Concepts

Total Units: 15-16

Database Administration*

A Certificate of Competence will be granted upon completion of the required courses with a minimum grade average of 2.0 (B) is necessary in the required (19) units. A minimum of 12 Computer Information Systems units must be completed at El Camino College.

Certificate of Competence

Required Courses:

CIS 18	Systems Development and Analysis
CIS 28	Using Database Applications
CIS 29	Advanced Database Applications
CIS 80	Oracle Application Programming
CIS 83	Database Administration using Oracle

Choose one course from the following:

CIS 16	Introduction to Visual Basic.Net
CIS 19	Introduction to the Internet and Web Publishing
CIS 46	Local Area Network Systems

Total Units: 19

*** Certificate Pending Chancellors' Approval**

E-Commerce*

Certificate of Competence

A Certificate of Competence will be granted upon completion of the required courses with a minimum grade average of 3.0 (B) if necessary in the required (30-31) units. A minimum of 12 Computer Information Systems units must be completed at El Camino College.

Required Courses:

Bus 25	Introduction to Business
CIS 19	Introduction to the Internet and Web Publishing
CIS 30	Introduction to E-Commerce
CIS 133	Web Programming Concepts
CIS 134	Web Programming I
CIS 135	Web Programming II
CIS 140	Data Communications Cisco 1
LAW 31	E-Commerce Law

Choose two courses from the following:

BUS 12	Advertising
BUS 14	Marketing
BUS 18	International Aspects of Business
CIS 16	Introduction to Visual Basic.Net
CIS 28	Using Database Applications
CIS 29	Advanced Database Applications
CIS 80	Oracle Application Programming

Total Units: 30-31

*** Certificate Pending Chancellors' Approval**

Web Programming

Certificate of Competence

A Certificate of Competence will be granted upon completion of the required courses and a minimum grade average of 3.0 (B) is necessary in the required 15 units. A minimum of nine Computer Information Systems units must be completed at El Camino College.

Required Courses:

CIS 30	Introduction to E-Commerce
CIS 133	Web Programming Concepts
CIS 134	Web Programming I
CIS 135	Web Programming II

Choose one courses from the following:

BUS 12	Advertising
CIS 28	Using Database Applications
LAW 31	E-Commerce Law

Total Units: 15

Windows Networking*

Certificate of Competence

A Certificate of Competence will be granted upon completion of the required courses with a minimum grade average of 2.0 (C) is necessary in the required 18 units. A minimum of 9 Computer Information Systems units must be completed at El Camino College.

Required Courses:

CIS 46	Local Area Network Systems
CIS 47	Novell Netware Advanced Administration
CIS 48	Network Infrastructures in a Windows Environment
CIS 49	Directory Services Infrastructures in a Windows Environment

Choose one of the following groups:

CIS 28	Using Database Applications
CIS 83	Database Administration using Oracle

OR

CIS 140	Data Communications Cisco 1
CIS 141	Networking Microcomputers Cisco 2

Total Units: 18

*** Certificate Pending Chancellors' Approval**

Notes:

A) The following certificates listed above are pending the Chancellor's approval
   - Database Administration (certificate of completion) See #7 below
   - E-Commerce (certificate of completion)
   - Database Administration (certificate of competence) See #7 below
   - E-Commerce (certificate of competence)
   - Windows Networking (certificate of competence)

B) The following certificates listed above refer to a class (CIS 135) that has been inactivated. As CIS 135 is still in the current El Camino catalog, the certificates referring to the class will be updated once the new catalog is updated and published.
   - E-Commerce (certificate of completion)
   - E-Commerce (certificate of competence)
   - Web Programming (certificate of completion)
   - Web Programming (certificate of competence)

6. Are these degree and/or certificate requirements inconsistent with current practice? ___ Yes ✓ No

7. Is there a need to create or delete a degree and/or certificate? ✓ Yes ____ No

   There are two separate reasons why we have decided to inactive the certificates of competence and completion for Database Administration.

   - Two of the courses (CIS 80 and 83) required for the certificates have not done well with enrollment numbers over the past three years, and there are no clear signs of improvement.
   - The Chancellor's office seems to have misplaced the paperwork on both certificates.

8. Should any recommendations be written that address the above responses? ✓ Yes ____ No

   Some of the individual certificates, such as the ones in Database Administration, were problematic as the individual classes that the certificates required were not offered frequently enough. In February we are submitting a more generalized certificate to the College Curriculum Committee whereby students can concentrate in different areas and tailor their own program. Hopefully, this will enable our students to obtain a certificate within the time frame that they desire.

B. Articulation

Instructions: Articulation is the process by which courses taken at ECC can be used to satisfy subject matter requirements at another college or university. This is important in the transfer process for students. To help you in this area, you can review articulation agreements at www.assist.org, the California Articulation Number Guide or meet with the Articulation Officer, Lori Suekawa (ext. 3517).

1. Are there any courses in your curriculum which are part of a lower division preparation for the major that are not articulated with our major transfer institutions?

Three courses came under review. Of all of the degree applicable CIS courses listed in the El Camino catalog, only CIS 19 and 30 are not transferable. CIS 16, although transferable, has not been articulated.

CIS 16

Our CIS 16 (Introduction to Visual Basic.Net) class would appear to be a close match to California State University; Dominguez Hills (CSUDH) CIS 272 (Business Programming I) class which is a lower division requirement for students seeking the information systems concentration for the Bachelor of Science in business administration degree.

CIS 19

There also seems to be many common elements between our CIS 19 (Introduction to the Internet and Web Publishing) class and the CIS 275 (Introduction to Network-Based Applications) class that also is a lower division requirement for students seeking the information systems concentration for the Bachelor of Science in business administration degree at CSUDH.

CIS 30

Our CIS 30 (Introduction to e-Commerce) class does not match to any lower division requirement at any of our transfer institutions.

2. What problems, if any, are there in articulating these courses?

   There are no problems that we know of. An attempt to articulate our CIS 16 and 19 classes with CSUDH has just never been pursued.

3. Should a recommendation be written addressing above responses? ✓ Yes ____ No

   We will research the exact nature of CSUDH's CIS 272 and 275 classes to see if they truly match the purpose of our CIS 16 and 19 classes respectively. If the objectives and outcomes are the same then we will attempt to articulate CIS 16, and change the course outline of CIS 19 to "transferable", and articulate it as well.

C. Instruction and Assessment

1. Learning Methods

1. What learning methods are incorporated inside and outside the classroom in the program to promote student success?

   All of the courses offered through the CIS department have separate lecture and lab components. As our course content varies greatly, the best learning methods depend on the subject matter and whether they occur during a lecture or lab.

Some of the more commonly used methods are lecture, multimedia presentations, demonstrations, group projects, and whole class or group discussion. Used, but not as frequently are oral presentations and the use of guest speakers.

2. Should a recommendation be written addressing above response? ____ Yes ✓ No

2. Assessment

1. How do you evaluate the extent to which the learning objectives, skills, and competencies are being met?

   A) Courses
   The assessments during both lecture and lab portions of our classes are designed to evaluate how well students accomplish the learning objectives stated in each course's outline.

   The lecture portions of our classes are evaluated based upon the student's performance on quizzes, tests, and a comprehensive final exam on the concepts presented throughout the semester.

   The lab portions of our classes are evaluated each week through assignments and hands-on testing that demonstrate the attainment of hardware and software skills, critical thinking, and, in some cases, interpersonal skills.

   B) Program
   The assessment of our program occurs informally throughout the year in department meetings. A more formal assessment takes place through the review of success and retention statistics.

   2. How do you use the results of the above evaluation to improve student learning and the quality of the program?

      The faculty analyzes the results of the evaluations, and as a department agrees on how to proceed. This has resulted in:
      - Adding more performance-based tests
      - Acceptance of multimedia training devices
      - Changing of textbooks and negotiating with publishers to tailor books to match our students and curriculum needs
      - Changing the length of lectures and labs
      - Offering additional open labs Monday through Friday
      - Adding an online tutoring help desk

   3. Should a recommendation be written addressing this area? ✓ Yes ____ No

      The CIS department should utilize departmental meetings to review course objectives, teaching methods and assessment practices for all of our courses.

IV. Program Requirements
A. Instructional Support

1. Identify key instructional support areas used by the program.

The percentages listed for the first two sections below (Libraries & Programs and Computer Labs & Tutoring) are based upon the total number of responses to questions #14 and #15 on the program review student questionnaires. It should be noted that 22% of the students chose not to respond to question #14 at all. It is unclear whether they do not use any of El Camino's instructional support services, or simply didn't feel like answering the question.

Libraries & Programs:

30.5%	Library	0.7%	Special Resource Center	4.1%	Basic Skills Study Center	1.1%	Library Orientation
0.6%	Music Library	0.0%	Puente Program	1.4%	Honors Transfer Program	0.8%	LRC Tutorial Program
1.2%	Learning Resource Center Media Materials Collection	1.5%	Assessment/Testing Office	12.9%	Counseling	0.3%	SRC Tutorial Program
3.4%	EOP&S/CalWORKS	4.3%	Transfer Center	4.4%	First Year Experience		
1.7%	Learning Communities	1.4%	Project Success	4.7%	EOP&S Tutoring		

Computer Labs & Tutoring:

25.0%	LMTC Computer Commons	10.5%	MCS 111	13.3%	BUS 10
19.5%	MCS 108	11.9%	BUS 8	3.5%	BUS 11
9.8%	MCS 109	4.8%	BUS 9	1.6%	ARTB 322

Faculty Support Services:

	Graphic Arts	X	Copy Center		Distance Education	Other (Please list.)
	Media Services AV Production	X	Tech Services Help Desk		Teleconferences	
	Media Services AV Equipment Distribution	X	Support Staff		Webconferences	
	ECC Vehicles	X	ECC hosted Websites	X	Staff Development	
X	ECC E-mail					

2. Do you have some instructional support needs that are not being met? ✓ Yes ____ No

This would be a more effective class if:

	Frequency	Percent
Teaching/tutorial assistants were available	107	21.02%
Additional lab hours were available	180	35.36%

Source: CIS Program Review Student Questionnaires (responses to two of four parts to question #20)

A substantial percentage of our students indicated that they felt the class would be more effective if teaching assistants and additional lab hours were available

3. Should a recommendation be written to address your needs? ✓ Yes ____ No

Maintain budget allocations for:

- Lab assistants for CIS 13 classes with enrollments of forty-four students
- Additional open lab hours with tutors in Business 10 and 11 lab rooms

B. Facilities and Equipment

1. Does the program make effective use of its facilities and equipment? ✓ Yes ____ No

2. Are adequate facilities, equipment and supplies available for the program? ____ Yes ✓ No

Unlike many other disciplines, the nature of information technology is such that it doesn't change slowly, but sometime during the course of a semester, and at a rate that make our books, hardware, and software obsolete at an alarming rate.

3. Are the facilities and equipment adequately maintained? ✓ Yes ____ No

The CIS department feels that the facilities and equipment are adequately maintained, and 90.37% of our students agreed.

4. Should a recommendation be written addressing the data? ✓ Yes ____ No

Percentage responses to questions 21 and 22 of student questionnaire

	Very important to you	Somewhat important to you	Of minor importance to you	Not important to you at all
Being trained on the same software that corporations would expect you to be experienced with (the most recent versions available) is:	**78.78%**	**17.49%**	**2.36%**	**1.18%**
Using hardware in the computer lab that is capable or running the applications you wish to learn is:	**81.14%**	**14.73%**	**2.75%**	**1.38%**

Source: CIS Program Review Student Questionnaires

It is imperative that the college not exceed the three year time frame for upgrading equipment in our computer labs, as a failure to keep abreast of information technology will virtually render the department unable to stay current in instructional areas, and certainly inhibit any growth in enrollment both immediate and long term..

Indicated as students needs (see survey responses above), and advocated by the CIS faculty and endorsed by past advisory boards, regular upgrades for the computer labs used by the CIS department is a necessity. Currently, many of our computer labs are four to five years old, with some running equipment purchased in the year 2000.

The past practice of a three year cycle of upgrading has barely kept the CIS labs current with the software and hardware needs of our classes. The CIS department plans to migrate to Microsoft's soon to be released operating system (Vista) for instruction by the summer session of 2007. This change will require all of our current computer labs to be upgraded. All of our lab rooms are configured with forty-four student computers and one faculty computer. Additionally, they each contain one high speed laser printer and one file server. The approximate cost for a complete upgrade would be $100,000 per lab.

C. Staffing

Instructions: Analyze the data on **FTEF, adjunct FTEF, and the FT/PT ratio** for the most recent fall semester and answer the following questions:

	Fall 2006	**Fall 2003**
FTEF (full-time equivalent faculty)	9.709	11.793
Number of full-time FTEF	7.767	7.750
Number of adjunct FTEF	1.942	4.043
FT/PT load ratio	80/20	66/34

The CIS department experienced a strong rate of growth during the 1990s that has tapered off slightly during the last four years. In the last decade, the department hired on six new full time faculty members (four still remain) while two members who had each served for over thirty years retired.

1. How do the program numbers compare to a like semester (Fall to Fall) three years ago or the previous program review?

   The number of full-time equivalent faculty (FTEF) has dropped by 2.084 with almost all of that number representing a reduction in the number of adjunct faculty. This change brought us closer to the "optimal" 75/25 FT/PT load ratio.

2. What do the program data indicate? Comment on any trends or unusual data.

   As the FTES and fill rates have dropped over the years we have had to offer fewer sections, and cancel others that did not fill. This left fewer sections available for our part-time instructors.

3. How does the FT/PT ratio benefit or harm the program?

   The ratio benefits the program as our full time instructors are concentrated in CIS 13 (the core of our program that serves as a prerequisite to the more advanced classes). Although all of the department's full-time instructors also teach our "current" advanced classes, we realize that part-time instructors who work full-time in industry are well equipped to help teach "future" advanced classes utilizing newer technologies they encounter on the job

4. Do you have a faculty mentoring program? _____ Yes ___✓___ No

Currently there is no official faculty-mentoring program in place. Over the years various faculty members have volunteered to answer questions and give advice to newer members. Additionally, the CIS department holds an adjunct orientation meeting each semester where the course outline of record is discussed along with testing procedures, standards, lab resources, and other division/department policies.

5. How do faculty members maintain currency in their field?

- Attendance at professional conferences
- Subscriptions to professional publications
- Consulting work in private industry
- Staff development workshops

6. **Fill in the faculty status data below and answer the questions that follow**.

Name	Reassigned time (how much in %)	Currently on leave (check)	Retired in last 2 years (check)	FT hired last 3 years (check)	Anticipated to retire in next 3 years (check)
Barton, Richard					
Bilici, Lutchminia					Reduced load within 2 years
Harris, Randy					
Miller, Dave					
Siddiqui, Jay					
Thompson, Jacquie	50% (Spring 2007)				
Vacca, Pat					Reduced load within 2 years

6a. How does this data impact the program?

As our enrollments are down, having one full-time instructor with 50% reassigned time next semester, and two others possibly going to a reduced load within the next two years will not cause staffing problems for the CIS department.

6b. Will this data affect the program in the future?

The current full-time staffing levels should be adequate for the next two years or so. Beyond that window new full-time staff will probably need to be hired due to increasing enrollment numbers (as we expect) due to new course offerings, and the possibility of retirement by some of the current faculty.

Upon review of the CIS program, the breadth and depth of the curriculum still remains as rigorous as it was ten years ago when the following minimum qualifications were created:

> Master's in computer science, computer information systems or business administration with an emphasis in computer information systems **OR** Bachelor's in any of the above and 5 years of appropriate work experience **OR** the equivalent.

These qualifications are important in order to maintain a high level of standards, and non-problematic as the pool of applicants has always provided qualified candidates who meet these criteria.

7. From this information, can you identify present and future staffing needs? ✓ Yes ____ No

8. What is the department doing to address any future staffing needs?

   We have found it to be good practice to "hire from within". By this we mean that we like to aggressively recruit strong candidates to start out as part-time instructors, observe their capabilities over time and have them apply for full-time openings when they occur.

9. Should a recommendation be written addressing the data? ✓ Yes ____ No

   We plan to continue recruiting candidates from industry with strong IT skills for part-time employment, indoctrinate them in departmental procedures and monitor their progress.

D. Planning

1. Do the program faculty and other personnel have a clear idea of what is happening in the program, where it is headed, what external changes are affecting it, and what changes need to be made in order to enable the program to adapt and continue to be successful?

   The faculty is aware that the enrollment has been down in the CIS department (and across many campuses). Much of this can be attributed to economic factors, increase in enrollment fees, and a slump in the CIS job market. However, information technology is a rapidly changing field. The faculty is cognizant of this and is continuing to update their courses and lecture plans in order to keep up with rapidly changing hardware, software and workplace environments.

2. What data, not currently provided, would be needed in order to improve planning for the development of the program?

   - Although we already have data on the CIS courses that are offered by neighboring community colleges, it would be helpful to analyze their success/retention rates to see if there are positive differences indicating something worthwhile looking into.
   - Data on "best practices" used successfully at other educational institutions.

3. What major external changes or trends do you expect to be of particular relevance to your discipline in the next five years?

   In the next five years we expect the demand in the local work force for employees with CIS skills to increase substantially for a number of reasons.

   - The U.S. Bureau of Labor Statistics (among others) has published their list of the "top ten growth jobs by 2010", and information technology jobs comprise eight of them.

- The Los Angeles and Irvine areas are predicted to experience increases in IT job openings by 25%
- The projected percent change in the number of public high school graduates is expected to increase by 21.6% from 2002 through 2014 (source: U.S. Department of Education)

Additionally we expect a continuation in the rapid introduction of new technologies as companies convert novel ideas into practicable hardware/software corporate solutions.

4. What will the implications of these changes or trends be for the program and how will the program need to respond?

   Ongoing advances in technology will necessitate either existing faculty to be trained in these new technologies, or using future part-time instructors with job related experience to cover new classes.

   The two to three year curriculum process from concept to delivery needs to be shortened for vocational courses to allow for topics that change rapidly to fit community and workplace needs. Under current conditions it is very difficult for CIS faculty to develop a course by going through the lengthy curriculum process only to find that the course is close to obsolete by the time it is offered.

5. Based upon the information above, how would you like the program to evolve within the next five years?

   This is hard to be exact as in our discipline <u>future</u> technology innovations and job market demand will dictate how we will evolve within the next five years.

6. Should a recommendation be written addressing the data? ✓ Yes ____ No

   We would like our program to evolve positively by offering relevant technology courses taught by instructors well-versed in those new technologies, rather then decline by lowering our standards or the quality of our curriculum.

V. Conclusion

1. Prioritized Recommendations

   - Develop new courses, or revitalize existing curriculum to cover newer technologies that are of interest to employers and our students.
   - Obtain training for existing staff on newer hardware and software platforms that will form the basis of our newer courses.
   - Continue to adhere to the three year cycle of upgrading the resources within our computer labs.
   - Work to articulate El Camino Colleges CIS 16 and CIS 19 classes with California State University; Dominguez Hills CIS 272 and CIS 275 respectively.
   - Continue the recruitment of knowledgeable information technology employees from local companies as part-time instructors.

2. Major Needs

- As many of our computer labs are running equipment that are out of warranty it is critical that these labs receive long overdue upgrades.
- Training for existing staff on recent technology innovations that will form the basis of our new curriculum.
- A reduction in the time required for our new courses to go from idea and development, through the lengthy curriculum process to fruition.
- Teaching assistants for open labs and CIS classes with enrollments of 44.

3. Strategies

- Make use of our advisory board to identify needed IT skills (and therefore the new classes that we should offer) required of CIS job applicants.
- Continue to stay abreast of new CIS offerings of neighboring institutions.
- Make available online classes to those students who prefer an online format.
- Continue to partner with the high schools and local businesses that our potential students live in/work for

VII. Appendix

See the next two pages for an example of the program review student questionnaire used to gather student responses used in this program review.

Computer Information Systems (CIS)
PROGRAM REVIEW
STUDENT QUESTIONAIRE

Please help the CIS Department by taking a little of your time to provide important data that will have an impact on a number of areas regarding the program.

This questionnaire is strictly anonymous so please do not write your name on the form.

1. Age ⓪⓪ ①① ②② ③③ ④④ ⑤⑤ ⑥⑥ ⑦⑦ ⑧⑧ ⑨⑨

2. Gender ○ Male ○ Female

3. Educational attainment
   - ○ HS, no diploma
   - ○ HS diploma
   - ○ CC degree of certificate
   - ○ BA/BS or above

4. Educational status
   - ○ First term at ECC
   - ○ Returning student
   - ○ Continuing student
   - ○ High school student

5. How many hours a week are you employed?
   - ○ 1-10
   - ○ 11-20
   - ○ 21-30
   - ○ Over 30

6. Is this the first course you are taking in CIS? ○ Yes ○ No
7. Are you planning to take other courses in CIS next term? ○ Yes ○ No
8. Are you planning to take another course from this instructor? ○ Yes ○ No
9. Indicate the area of your major at El Camino College.
   - ○ Behavioral/Social Sciences
   - ○ Business
   - ○ Computer Info Systems
   - ○ Fine Arts
   - ○ Humanities
   - ○ Math/Computer Science
   - ○ Physical sciences
   - ○ Life Sciences
   - ○ Health Sciences
   - ○ Physical Education
   - ○ Technical Arts
   - ○ Undeclared
10. What is your purpose in taking CIS classes?
    - ○ AA/AS degree
    - ○ certificate of compentence
    - ○ certificate of completion
    - ○ re-training
    - ○ personal enrichment
    - ○ other
11. Are you currently employed in the CIS field? ○ Yes ○ No

On a scale of 1 to 5 where 5 is very satisfied and 1 is very unsatisfied, please indicate your satisfaction with the scheduling of classes offered during:

	5	4	3	2	1
Early morning before 10:00 am.	○	○	○	○	○
The late morning/early afternoon from 10:00 am to 1:55 pm.	○	○	○	○	○
The evening from 4:30 and later	○	○	○	○	○
The weekend.	○	○	○	○	○
The Summer intersession.	○	○	○	○	○
The winter intersession.	○	○	○	○	○
Through on-line instruction.	○	○	○	○	○
Through telecourses.	○	○	○	○	○

13. Are facilities for this department well maintained? ○Yes ○No
14. Which of the following student services have you found helpful at it pertains to this course?
    - ○ Library
    - ○ Music Library
    - ○ LRC Media materials
    - ○ EOP&S/CalWORKS
    - ○ Learning Communities
    - ○ SRC
    - ○ Puente Program
    - ○ Assessment/Testing Office
    - ○ Transfer Center
    - ○ Project Success
    - ○ Basic Skills Study Center
    - ○ Honors Transfer Program
    - ○ Counseling
    - ○ First Year Experience
    - ○ Library Orientation
    - ○ LRC Tutorial Program
    - ○ Math Tutoring
    - ○ SRC Tutorial Program
    - ○ EOP&S Tutoring

15. Which of the following computer labs do you use on a regular basis?

- ◯ Library
- ◯ MCS 108
- ◯ MCS 109
- ◯ MCS 111
- ◯ ARTB 322
- ◯ BUS 8 (Keyboarding Center)
- ◯ BUS 9 (Word Processing Center)
- ◯ BUS 10
- ◯ BUS 11

16. Are you concurrently attending another college? ◯ Yes ◯ No

17. If yes, which college?

- ◯ Cerritos
- ◯ West LA
- ◯ Long Beach City
- ◯ CSU Dominguez Hills
- ◯ LA Harbor
- ◯ Compton
- ◯ UCLA
- ◯ CSU Long Beach
- ◯ LA Southwest
- ◯ Santa Monica
- ◯ UCI

Other (please specify) _____

18. If yes, why are you attending another college?

- ◯ Schedule conflicts with classes I needed.
- ◯ Classes I needed were not being offered.
- ◯ I was advised to take the class elsewhere.
- ◯ Class is less demanding.
- ◯ More support services are available
- ◯ Parking

Other (please specify) _____

19. Indicate the class that you are currently taking:

- ◯ CIS 3
- ◯ CIS 13
- ◯ CIS 18
- ◯ CIS 19
- ◯ CIS 26
- ◯ CIS 27
- ◯ CIS 28
- ◯ CIS 30
- ◯ CIS 40
- ◯ CIS 134
- ◯ CIS 140
- ◯ CIS 141

20. This would be a more effective class if:

- ◯ The hardware was more current.
- ◯ The software was more current.
- ◯ Teaching/tutorial assistants were available
- ◯ Additional lab hours were available

21. Being trained on the same software that corporations would expect you to be experienced with (the most recent versions available) is:

- ◯ Very important to you
- ◯ Somewhat important to you
- ◯ Of minor importance to you
- ◯ Not important to you at all

22. Using hardware in the computer lab that is capable of running the applications you wish to learn is:

- ◯ Very important to you
- ◯ Somewhat important to you
- ◯ Of minor importance to you
- ◯ Not important to you at all

23. If you were to take another CIS course, you would want it to be scheduled on:

- ◯ One day a week
- ◯ Monday/Wednesday
- ◯ Tuesday/Thursday
- ◯ Monday/Wednesday/Friday
- ◯ Weekend

24. Your preferred time for starting a class is:

- ◯ 7 - 9 am
- ◯ 9 am - 12 pm
- ◯ 12 - 3 pm
- ◯ 3 - 6 pm
- ◯ 6 - 7 pm

Please feel free to submit, on a separate sheet of paper, any comments or suggestions that you feel might help our faculty to improve our Computer Information Systems program. Your comments might include suggested improvements in hardware, software, and facilities, or computer courses not currently being offered that you would like to take.