



Instructional Program Review Summary 2004-05

Instructional Area: **Computer Studies and Advanced Technology**

Department: **Computer Studies**

Discipline: **Computer Science and Computer Information Technology**

May 4, 2005

Instructional Program Review Summary

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NOTE: An external reviewer should not be required to refer to the documentation notebook to understand the Instructional Program Review

Summary. Rather, data should be clearly cited in the summary so that the reviewer can easily find the source documents if needed.

EXECUTIVE SUMMARY

Use the following guidelines to provide a concise overview/summary of the program review contained in this report.

Write a brief description of the goals and objectives of the discipline.

The Computer Studies department is made up of two disciplines: Computer Science and Computer Information Technology. The department offers four associate degrees and three certificate programs, through a curriculum of computer technology related courses.

Program Goals:

1. Offer a contemporary curriculum in computer science and computer information technology for transfer students, associate of applied science degree seeking students, and those wishing to improve their professional skills in computer related technology.
2. Provide state of the art laboratory facilities for students.
3. Provide a course schedule which allows students to achieve their educational goals in a reasonable time.
4. Provide a schedule of courses at locations that are geographically appropriate for their needs.

Program Objectives:

1. Provide a curriculum appropriate for students transferring to a senior college in computer science and/or computer information systems.
2. Provide a curriculum for students wishing to become programmers, network technicians, database administrators, application software technicians, web site administrators and other computer technology related occupations through an associate of applied science degree.
3. Provide a curriculum appropriate for students who wish to improve computer technology skills and knowledge through enrolling in college level courses as "professional staff development."

Overview of how the program review was conducted.

The Computer Studies Program Review Team reviewed the elements of the departments program. The Team met on numerous occasions both as a

committee of the whole and as subcommittees. Data supplied by the ACC Office of Institutional Effectiveness was used by the team. In addition, the team gathered data about employment needs in the Greater Austin Metropolitan Area, conducted and gathered data from students regarding their experience as a departmental student, reviewed advisory committee minutes, analyzed enrollment information, reviewed existing surveys of area employers, and reviewed the departmental mission statement and objectives. This report summarizes the work of the review team.

Summary of findings:

Progress on previous program review recommendations.

The review team examined the recommendations of the last Computer Studies Program Review (2000). These recommendations and the team's review of progress toward implementing the recommendations are included below.

The Program Review Report of 2000 made the following recommendations:

1. "A program of faculty recruitment for both full-time and adjunct faculty must be devised and implemented. The ACC CIT program is under increasing pressure to meet more instructional needs related to the high-tech industry in Austin. A crucial factor in the college's ability to meet these needs is qualified faculty. Recently, employment opportunities in Austin have increased to such a degree that the pool of candidates for faculty positions has diminished significantly."

Progress on this recommendation has been significant. Since the last program review, the number of full-time faculty has increased from 21 to 25. During this period, the circumstances the department finds itself in have changed dramatically. The nature of the employment opportunities which compete locally with ACC for the pool of potential faculty has changed. As a result, the number and quality of potential faculty recruits have increased significantly. This has led to the employment of many new and talented faculty members. ACC conducted a number of "job fairs" for potential ACC faculty. The computer studies personnel participated in these fairs.

During this period, ACC underwent an Institutional Self-Study and Reaccreditation Review by the Southern Association of Colleges and Schools. A significant result of the reaccreditation process is that ACC

was found to have many faculty who did not meet the SACS criteria for teaching in the discipline. As a result, many faculty found to be deficient in terms of graduate credit hours in the discipline have left the college, several others are in the process of taking additional graduate courses, and there are five temporary full-time faculty appointed for the current academic year to be able to staff the classes.

2. "A program of assessment of the achievement and level of satisfaction of the large number of students enrolled in CIT at ACC needs to be devised. Information about CIT associate degree program graduates is available from several sources. However, many students come to the college to take a specific but individualized sequence of courses to meet their personal needs for job growth and enrichment. While, the faculty is aware of this group and the continual growth in their numbers, they have no specific data to determine if the courses they selected are working for them to achieve the purpose for which they enrolled."

The Institutional Program Review Team conducted a survey of students for this report. Students in all departmental sections were surveyed. Among the findings were:

Currently, individual faculty members and faculty teams are the source of initiatives for changing and adapting to new technology. Sub committees of the CIT Task Force are charged with technology review and with making periodic recommendations about integrating new technology into the curriculum.

Individual faculty initiatives remain the principle method of curriculum review and study. However, a number of faculty subcommittees of the Computer Studies Task Force worked to create several new certificate options for students. In some cases these are certificates which represent one year of study toward an associate degree. In others, however, the certificates are entirely new curricula. For example, the department has added a certificate in Data Base Administration.

3. "A program of faculty development specific to the needs of CIT faculty is needed. For the most part, CIT faculty have found the time to keep abreast of changes in computer technology, while at the same time teaching their classes. However, as the pace of technological evolution continues to increase, a program to aid faculty in the development of skills and knowledge necessary to teach new courses will be necessary."

During the period since the last review, faculty development has, largely, remained the responsibility of individual faculty members. However, the department conducts, a Faculty Meeting/Faculty Development Night at the beginning of each semester. A part of this activity has been inviting

speakers on technology topics relevant to the discipline. Also, during this period, the department sponsored a two-day conference on the .Net Framework conducted by Microsoft Corporation. This conference was well received by faculty.

4. "A systematic review of laboratory facilities including equipment and space needs to be conducted on a regular basis. While facilities for many courses are excellent, i.e.: programming and application software courses; facilities for teaching networking and computer hardware are limited. Proper equipment and support for the lab facilities must also be reviewed to assure adequacy for instruction.

Since the last program review, the department has instituted a systematic program review of equipment replacement. Each campus replaces all of its lab equipment every three years. The campuses are staggered so that, about a third to the lab equipment is replaced each year. The department has made significant improvements in its Local Area Networking program labs".

Program strengths.

All of the following strengths identified by the SWOT Review either directly or indirectly have a positive impact on the achievement of students enrolled in Computer Studies classes.

Excellent Courses
Superb Faculty
Committed Program Leadership
Excellent Up-to-date Labs
High Tech City

Areas for improvement.

Areas of possible improvements from the SWOT and Review Committee discussion included:

Add or Modify Course Offerings
Create Additional Articulation Agreements
Offer More, and a Wider Variety of Courses
Work More Closely with Industry and the Austin Technology Council
Seek Additional Grants Funding
Increase Collaboration and Involvement in Research Activities as related to the changes in technology
Increase Enrollment and Retention

Key planning issues.

Planning for the future of the department's programs should focus on:

Developing curriculum for new and emerging technologies such as computer security and wireless networks.

Develop additional working relationships with the area's public school systems.

Research sources of additional funding for curriculum development which might improve the department's programs.

Work to increase involvement with community leaders in planning for programs to train workers for new industry coming to the Austin area.

Seek involvement in relevant research projects conducted in the area for possible instructional and curriculum changes and additions.

Work to increase enrollment through innovative instructional technologies and attempt to decrease negative factors which may contribute to retention of existing students.

Conclusions: What are the major conclusions regarding the present state of the program?

The program has suffered a significant drop in enrollment. However, the rate of decline seems to be slowing. This is a trend which parallels that of similar programs in Texas and the rest of the nation. The faculty and program department chair have worked to diversify the curriculum by transitioning the curricula from heavily programming oriented to data base, networking, security and desktop user support, to prepare the students for the changing technology job market. The department has also had a National Science Foundation grant where the faculty cross-walked the National Workforce Skills Standards against the current curricula skills and student outcomes resulting in adding new courses, modifying the outcomes of current courses and adding 2 new specializations with one in the LAN degree plan (Security) and the other in the Micro Application Support Degree Plan (Desktop Support). This process is ongoing. Starting in the fall 2005 semester the department will implement the 2 new specializations. The department is also working with the Electronics department on wireless technology. This will result in modifying courses or adding courses to support this technology.

The program has significantly reduced the ratio of fulltime to adjunct faculty (55% FT/45% adjuncts) in terms of the number of sections taught.

The program has instituted a system of periodic replacement of laboratory equipment. As a result the state of the laboratories is excellent. The program has also elected to participate in a program sponsored by Microsoft which provide the college with low cost licenses for their operating systems and software development suites. These licenses are available to students also. This has been a significant development for the department because of the reduced cost. In addition, students are able to use the software at home which produces a significant educational advantage.

Recommend future directions for the program based on this review:

- Expand services
- Maintain services
- Reduce services
- Close program

Recommendations: Summarize the self-study's recommended actions for improving the quality of the program.

1. Market all Computer Studies Department programs to increase enrollment.
2. Continue to develop additional curricula and examine existing curricula for additions, changes, and modification which may be necessary to maximize responsiveness to community needs.
3. Expand faculty professional development opportunities to keep abreast of the latest technology.
4. Develop at least one degree or certificate which can be completed through distance learning via the Virtual College of Texas in conjunction with Texas State Technical College - Waco.
5. Implement an Associate of Applied Science degree in Computer Security.
6. Improve the Computer Studies department student retention through advising, tutoring and faculty follow up services.
7. Review the assessment instrument to insure that it adequately and accurately measures student outcomes.
8. A systematic method of curriculum review and study needs to be created so that the CIT program can continue to keep abreast of changes in computer software and technology.

SELF-STUDY TEAM PARTICIPANTS

List the names of people who participated in the review and their association with your program.

Name Mary Kohls	<input checked="" type="checkbox"/>	ACC Faculty
Name Michael Smith	<input checked="" type="checkbox"/>	ACC Faculty
Name Roie Black	<input checked="" type="checkbox"/>	ACC Faculty
Name Richard Baldwin	<input checked="" type="checkbox"/>	ACC Faculty
Name Paul Russell	<input checked="" type="checkbox"/>	ACC Faculty
Name Anne Cox	<input checked="" type="checkbox"/>	ACC Faculty
Name Bob Comer	<input checked="" type="checkbox"/>	ACC Faculty
Name Jerry Nugent	<input checked="" type="checkbox"/>	ACC Faculty
Name Jade Lindquist	<input checked="" type="checkbox"/>	ACC Faculty
Name Fred Kumi	<input checked="" type="checkbox"/>	ACC Faculty
Name Rick Smith	<input checked="" type="checkbox"/>	ACC Faculty
Name Amanda Whaley	<input checked="" type="checkbox"/>	ACC Faculty
Name Carol Watson	<input checked="" type="checkbox"/>	ACC Faculty
Name Bill Tucker	<input checked="" type="checkbox"/>	ACC Faculty
Name Bob Marshall	<input checked="" type="checkbox"/>	ACC Faculty
Name Femi Onabajo	<input checked="" type="checkbox"/>	ACC Faculty
Name Amardeep Kahlon	<input checked="" type="checkbox"/>	ACC Faculty
Name Stan Pushkarsky	<input checked="" type="checkbox"/>	ACC Faculty
Name Michael Martino	<input checked="" type="checkbox"/>	ACC Faculty
Name Linda Smarzik	<input checked="" type="checkbox"/>	CSAT Dean
Name Pat Davis	<input checked="" type="checkbox"/>	Industry Representative
Name Willie Harvey, III	<input checked="" type="checkbox"/>	Industry Representative
Name Vicki Clark	<input checked="" type="checkbox"/>	Student
Name Allan Wehrman	<input checked="" type="checkbox"/>	Student

PROGRAM DESCRIPTION

Provide a brief description of the overall history, major developments and current objectives for your program (limit to 500 words).

The department has been in existence for most of the college's history. ACC was founded in 1973 and the Computer Studies Department was founded in 1977. During its 30 year history, the department has evolved with the city and the local area. As more high technology companies came to the city or were created the department evolved to match the needs. In the early years the department was housed at the RGC campus. As the need developed a program was created at other campuses as they were developed. In the 1980s Ridgeview, Rutherford, 620 Oaks and Riverside added a program of computer studies. In the early 1990s, Northridge, Southwest Center, Pinnacle, Cypress Creek, Eastridge, and Eastview followed suit. Several of these campuses are no longer in existence. Currently the department offers courses at RGC, NRG, RVS, PIN, CYP, EVC, and at off campus sites such as Round Rock, Fredericksburg, Bastrop and San Marcos.

In the early years, the department labs were equipped with a remote job entry station linked to the AISD mainframe computer. About 1982, the department acquired its own IBM mainframe computer. In the mid and late 1980's the department began a migration to personal computers and local area networks. For a few years, the department also had UNIX based minicomputers. At the present time each major campus has a local area network and labs populated with Dell personal computers. Most of these use MS Windows but a few use Linux. Except for the network labs all of the computers are also linked to the internet through the college's intranet, the ACCNET.

ACC's Computer Studies Department is located in one of the largest technology based economies in the country. Austin is the home of technology research consortiums, Microelectronics and Computer Technology Corporation (MCC) and Sematech. There are employers such as Dell Computer Corporation, IBM, Advanced Micro Devices, Motorola, and many Texas State Government Agencies that are the basis of a large and growing technology centered economy. Austin is also the center of many young growing software development companies. Outside of the famous "Silicon Valley", there are few cities in the country that feature more technology based business and industry than Austin.

Austin, and as a result, ACC are participants in the "Internet Revolution". The World Wide Web and the growth of businesses and organizations participating in its growth and success also present significant opportunities for the program completers. A myriad of local companies and organizations are finding themselves in need of employees with knowledge of and skill in software development, the creation of web related business activity, network related occupations, web publishing occupations, and other technology and business occupations. These employers continue to have employment needs in the face of weak job growth nationally and statewide.

With the recent national downturn in the technology industry, the department has suffered a decline in enrollment. However, the department continues to have a large enrollment of about 2500 enrollments each semester. Many of our students are already employed in the computer software industry or in related businesses. Many additional students are enrolled in hopes of becoming employed in the industry. The department is fortunate to be well positioned geographically and historically. The CIT faculty is continuously striving to create a program to meet the needs of local and area employers in the face of a weakened technology industry.

Austin is the home of the University of Texas; and is a close neighbor to Texas State University in San Marcos. Numerous smaller private colleges and universities are located in the area including St. Edwards, Huston-Tillotson, Southwestern and Concordia. As a result, the Computer Studies department

envisions a continuing large enrollment of students who are planning to transfer to one of these senior institutions to complete a baccalaureate degree.

The objectives of the program in meeting the needs of the Austin are to:

1. Provide continuing educational opportunities to programmers, engineers, and technicians employed in the computer industry in the area;
2. Provide associate degree programs to students preparing to become employed in computer programming, networking, and application software related occupations.
3. Provide freshman and sophomore level education in Computer Science and Information Technology to students planning to transfer to a senior institution.

STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS (SWOT)

List the names of people who participated in the SWOT and their association with your program.

Name	Association	
Pietro John Caporusso	Facilitator	
Michael Smith	Fulltime Faculty	Computer Science
Roie Black	Fulltime Faculty	Computer Science
Linda Smarzik	Dean	Computer Science
Richard Baldwin	Fulltime Faculty	Computer Science
Paul Russell	Fulltime Faculty	Computer Science
Anne Cox	Fulltime Faculty	CIT
Bob Comer	Fulltime Faculty	Computer Science
Jerry Nugent	Fulltime Faculty	Computer Science
Jode Lindquist	Fulltime Faculty	Computer Science
Mary Kohls	Fulltime Faculty	Computer Science
Fred Kumi	Fulltime Faculty	Computer Science
Rick Smitm	Fulltime Faculty	Computer Science
Amanda Whaley	Fulltime Faculty	Computer Science
Carol Watson	Adjunct Faculty	Computer Science
Bill Tucker	Fulltime Faculty	Computer Science
Bob Marshall	Fulltime Faculty	Computer Science
Femi Onabajo	Fulltime Faculty	Computer Science
Amardeep Kahlon	Fulltime Faculty	Computer Science
Stan Pushkarsky	Adjunct Faculty	CSAT
Allan Wehrman	Student	CIT
Vicki Clark	Student	CIT
Willie Harvey, III	Industry Rep	Security Analyst, DSHS
Pat Davis	Industry Rep	Program Administrator, TCEQ

Summarize the findings of the SWOT analysis. Focus on the top 5 or 6 issues and answer the following questions:

Strengths: In what does your program excel?

All of the following strengths either directly or indirectly have a positive impact on the achievement of students enrolled in Computer Studies classes.

Excellent Courses:

- excellent quality and high standards
- small class sizes mean students receive individual attention
- excellent introductory classes provide both practical skills and computer literacy
- diverse course offerings for both degree and certificate students.
- substantial course offerings:
 - multiple campuses
 - morning, afternoon, and evening hours
 - many on-line courses
- ACC students also have access to the Virtual College of Texas courses

Superb Faculty

We have full-time and adjunct faculty who

- are experienced educators
- are intelligent and knowledgeable in their subject matter
- have industry experience
- have technical expertise
- are diversified
- are future thinking (explore new curriculum/technology)

Committed Program Leadership

- departmental leadership works hard to ensure that ACC students receive a quality CS education
- articulation agreements ensure that students retain their credit hours when transferring to universities.
- secures grants that collaborate with other colleges and high schools

Excellent Up-To-Date Labs

- Current hardware and software for labs and faculty ensured by the technology plan.
- There is always a computer available for students.

Good Student Body

- diverse
- above average -- ACC's transfer students excel at Texas State

High Tech City

- business internships
- High tech companies employ our students upon graduation
- community support provided by the Advisory Committee

Weaknesses: What are the aspects of your program, which, if not addressed, will impede the area's future?

All of the following weaknesses are issues that either directly or indirectly have an impact on the students taking Computer Studies classes.

Inadequate Learning Labs / Tutoring

- staff doesn't have the skills that our students need
- the few tutors who have computer knowledge are not available during many of the hours that our students need help

Inadequate Facilities on Some Campuses

- all classrooms need a permanent computer with a display projector and network access
- RVS classrooms are too small for projectors and computers
- no lab integration among campuses
- inconsistent IT layout among the labs
- inadequate faculty office space
- inadequate parking on all campuses

Needed Course Improvements

- WECM has too much red tape and requires too much time to teach new technology
- need more online courses
- need more focus on Web Programming Technologies

Inadequate Funds for Professional Development for Faculty

- faculty need professional development offerings on new technologies
- need funds to attend conferences and seminars
- the exchange of knowledge between faculty is limited

Faculty

- Industry specialists, especially in new areas of technology, may not have the SACS credentials to teach their areas of expertise at ACC, and current faculty may not have expertise in the latest areas of technology
- Some instructors
 - o don't have practical experience in the field
 - o are complacent
 - o are slow to adapt to new software.
- aging faculty
- not enough diversity
- adjunct faculty need more support

Additional Weaknesses:

- The decline in IT jobs in Austin and throughout the country has led to a drop in enrollment in programming courses. The falling enrollment, in turn, reduces course offerings.
- We need more involvement and support from local industry for job placement.
- Students often miss their first assignments since not enough books are available when classes start.
- Lack of funding

- Need more marketing
- Poor advising places students in the wrong CS classes.
- Rising student costs:
- Cost of lab simulators
- Rising cost of tuition and fees
- Higher cost to outside district students
- Some students do not have the skills, such as math or study skills, that are required to be successful in their CS classes.
- Rigid administrative policies
- Complacency—SACS gone—back to normal

Opportunities: What factors does your program need to take advantage of in order to enhance the quality of the area?

Add or Modify Course Offerings

- Teach the emerging technologies such as:
 - o Wireless
 - o Networking
 - o Network security
 - o Game programming
 - o Web site administration
- Expand workforce offerings
- Expand web related course offerings
- Collaborate with high tech programs at ACC such as biotech
- Offer online only degree plans
- Offer more online courses
- Offer more advanced skills courses
- Develop new programs to line up with job demands

More Articulation Agreements – Add Course Offerings

- Collaborate with Texas State University in Round Rock
- Offer two-year computer science and BCIS courses to transfer to Round Rock Higher Education at Dell on-site and on other sites, etc.
- Partnering with more four-year colleges.

Work more closely with industry and the Austin Technology Council:

- more internships and job shadowing for CS majors
- money for software/hardware to start new programs such as wireless, security
- staff development training on new technology for faculty such as free/low cost training from Microsoft, Oracle
- internships for faculty could provide hands-on experience for faculty in areas of emerging technology
- grants for future professional development training

Grants Funding

- Take advantage of the current political focus is on education and community colleges by applying for grants and government funding.

Research Collaboration

- Form research partnerships with universities
- Student internships with UT/etc. via research (IC..... Institute, J.J. Pickle Research)
- Collaboration with peer colleges
- Publishing

Increase enrollment and retention through the following:

- Offer more tutoring to increase retention
- Tutors that have computer knowledge or on-call faculty to help students with homework
- More school district annexation, e.g.: Round Rock, San Marcos
- Expand course offerings for districts like Leander
- Collaborate with ISD's and community to inspire students to pursue IT studies
- Partnerships with high schools
- Offer dynamic scheduling so that courses may be added and deleted closer to the time the courses begin
- Create a "Distinguished Speaker" series for Computer Studies students

Threats: What are the external factors that could negatively impact your program's future?

Budget Costs Reduction

- Funding
- Cost at ACC
- State education budget cuts

Falling CS Enrollment

- High tech job losses and outsourcing mean a smaller job market for CS majors
- Ignoring (overlooking) emerging technologies
- Businesses are not subsidizing school for employees

Barriers to Keeping Course Offerings Current with Technology

- ACC and WECM bureaucracy
- WECM and other barriers to introducing new courses
- SACS requirements are often contrary to technical reality
- Government regulation

Administration Treats Academic and Workforce As the Same Thing

- Decisions made at the highest level of administration
- Administration's complacency and apathy
- Stifling administration

ACC Net Restrictions

- ACC spam blocker ineffective

Issues that Impact Students' Success

- Student lack the skills required for success in CS classes
- Students' time pressures (work/school)
- Lack of student interest/motivation

- Lack of academic preparation
Vocational Training Schools
 - Competition from online colleges
 - Vocational training schools
- Other Threats
- Improper marketing (the UT Extension Program has better marketing)
 - Inadequate parking
 - Will the future leadership be as good as the past leadership was?
 - Rigid scheduling procedures at ACC

Discuss changes from the program's previous SWOT analysis.
A comparison of the SWOT in the 2000 report and the current SWOT reflects many of the same strengths but many new weaknesses and opportunities.

Strengths:

Excellent Courses. This is the same but was identified somewhat differently in the 2000 report.

Superb Faculty. This is the same but with different terminology.

Committed Program Leadership. This is uniquely identified in the current SWOT but not in the 2000 report. Since the leadership is the same there can be little significance attributed to this additional strength.

Excellent Up-to-date Labs. This was also a strength in the previous analysis.

Good Student Body. This is a new strength listed in the current analysis that was not present in the earlier study. Since the source of the student body, the Austin community, has not changed, this is again not a significant change just a new observation.

High Tech City. This was also identified as a major strength in the last report.

Weaknesses:

Inadequate Learning Labs / Tutoring. This is a newly identified program weaknesses. However, there have been no significant ACC changes to cause this to be a new weakness. It is just newly identified.

Inadequate Facilities on Some Campuses. This is identified with different specifics in this analysis but it is not a new weakness. The physical constraints of classroom space and network infrastructure create some limitations with facilities.

Needed Course Improvements. The specifics of this weakness are largely the same as those identified in the previous analysis.

Inadequate Funds for Professional Development for Faculty. This was also a major weaknesses in the previous SWOT. However, the specific limitations caused by the recent SACS accreditation process is a new and unique weakness. The ageing of the faculty is also a newly identified weaknesses. This weakness will soon become critical. There are approximately 30% of the faculty over age 60 and 80% over age 50.

Decline in IT jobs is a newly observed and occurring weaknesses. The failure to recognize that it was going to occur was even a more significant weakness.

Support for Job Placement. This is also a newly identified weakness.

A myriad of other new weakness were also identified including:

Not enough books in the bookstores for students.

Need for more marketing.

Rising student costs at ACC.

Cost of lab simulators.

Departmental complacency.

Many of the observations in this SWOT are, undoubtedly, valid and real program weaknesses. However, the identification in the SWOT analysis alone does not necessarily constitute a genuine weakness.

Opportunities

Teach the emerging technologies. This is newly identified and in the face of declining enrollments has increased significance.

Many of the additional opportunities identified in the analysis reflect the department's need to seek new sources of student enrollments. Among these are:

Expand workforce offering.

Collaborate with other ACC high tech programs such as Biotech.

Offer online only degree plans

Offer more advanced skills courses.

Create more articulation agreements.

Work more closely with industry and the Austin Technology Council

Collaborate on research activities in local industry and government

Increase enrollment and retention.

Clearly the participants in the SWOT analysis regard the declining departmental enrollment as the biggest issue facing the program. And, as a result, they identified many additional weaknesses and threats which reflect this overriding concern.

Threats

Budget reduction. While this is not new the identification of reduced state funding as a part of the threat is new. The state continues to reduce support for higher education. As a result, revenue growth must come from local taxes and tuition and fees. The latter is very much a threat to department enrollment growth.

Falling enrollment. This is new and is obviously the biggest threat to departmental success.

Barriers to keeping course offerings current with technology. While this is not a new threat, its significance is growing because of enrollment declines.

However, it would be a threat even without that complication since computer technology changes so rapidly and both the college and the state are adding

restrictions on making curriculum changes. This produces something of a "catch-22". If we can't change the curriculum quickly enrollment will decline.

Administration which treats workforce and academics the same. Again this is not new but is increasingly significant because of the department's need to adapt quickly to changing technology.

Competition with online colleges. This is new and significant. ACC must do more to compete by expanding its online curriculum.

Vocational training schools. While proprietary schools are not a new threat, they are a growing threat. They are not constrained in adapting to new technology in the same manner this department is. As a result, they can tap student enrollments in some areas in which we do not have a competing curriculum.

ANALYSIS

[a] Relevance of the program to College mission and desired ends

Mission:

Review the program's purpose statement. Verify that the statement is current and accurate and reflects the mission of the college as a whole or update the purpose statement.

The Self-Study team reviewed the program purpose statement and found (select one):

The purpose statement is current, accurate, and reflects the mission of the college.

The purpose statement was revised as shown below:

The Computer Studies Program will provide the students an excellent computing education. To accomplish this, degree programs for both the students who transfer to a 4-year college and the students seeking an associate's degree will be provided. Certificate programs and course sequences to assist students in acquiring specialized knowledge and skills in specific computing areas will be offered. In addition, service courses for other disciplines will be provided. The computer Studies Program area will promote an environment which encourages creativity, self-motivation, and cooperation. The program area will continually be assessed in view of the anticipated computing trends and changes will be made accordingly to the curriculum.

Desired Ends (Board Policy A-2. Intended Outcomes)

How well does the program support the intended outcomes of the college by providing "service-area adults with the postsecondary and higher education they need and can use for productive useful lives?"

The Program Review Team conducted a survey during the Fall Semester of 2004 and found that respondents were distributed as follows:

Employed Fulltime -- 44%

Employed Part-time -- 27%

Not Employed -- 28%

Retired -- 1%

This data appears to demonstrate that the program serves "service-area" adults in a very significant manner since 71% of the program students are employed either fulltime or part-time.

The data from this survey also included the distribution of students by ACC degree/certificates being sought.

Students seeking Degrees in CIS - 10%

Students seeking Degrees in CS - 28%

Students seeking Certificates in CIS - 15%

Students seeking Degrees or Certificates in other ACC departments - 14%

Students not seeking a Degree or Certificate - 33%

This data appears to confirm the objectives of the department. That is to offer curricula for transfer students, for students seeking work upon graduation, and students taking departmental courses for professional development.

In what ways does the program demonstrate an open, responsible exchange of ideas?

All fulltime faculty and many adjunct faculty serve on the departmental Task Force. This group meets 3 or 4 times per semester to consider curriculum and instructional issues related to the department. All members may submit agenda items for the meeting. During the meetings an open and frank discussion of the merits and demerits of proposed courses, curricula, and other issues occurs. While the level of participation varies by individual, all members are free to put items on the agenda and to participate in the discussion of agenda items. All members vote on the motions presented for approval by the group. The taskforce meetings as well as the taskforce listserv demonstrates the opportunity for faculty for an open and free exchange of ideas.

The faculty also meet as a whole twice a year: at the beginning of the Fall Semester and the beginning of the Spring Semester. While discussion is not necessarily the purpose of these meetings, information is. The area dean and the department chair takes this opportunity to discuss issues and concerns facing the faculty. In addition, the program for these meetings often includes a presentation or discussion led by an industry expert on a relevant technical topic affecting the discipline.

With the advent of the internet and email, the faculty often engage in unscheduled, unstructured, and open discussion of issues through electronic mail. While these discussions are less meaningful than those that occur in the Task Force meetings, they, nevertheless, provide an opportunity for an open discussion of ideas.

In what ways does the program provide an open door to educational potential?

The department offers a variety of introductory courses in personal computing, introduction to computing, business computer applications, networking, the internet, and fundamentals of programming. The department is also a participant in the HS dual credit program, wherein, a student may enroll in ACC courses and also receive credit toward a high school diploma. The department teaches "gear up" students in cooperation with AISD during the summer term. The Computer Studies and Advanced Technology program at ACC offers a summer camp for high school students. This camp stresses involvement in technology. The department teaches a course in robotics for summer camp students. The department has created articulation agreements with area school districts allowing students to complete courses during their high school experience that apply directly to the technology in which the department offers degrees. The department regularly participates in HS career fairs designed to encourage students to enter the field.

In what ways does the program take targeted action to address internal needs within available resources?

Faculty write and develop curriculum as needs dictate as part of their ongoing responsibilities with the college. The scale of this activity varies from proposing new degree and certificate plans to the preparation of a new course. This is significant in that the computer technology field is very dynamic and requires a lot of study for faculty to remain current. A significant part of this effort involves sorting through a huge amount of technology to find what has curriculum implications.

In what ways does the program demonstrate a commitment to integrity and exemplary standards?

The faculty maintain high grading standards. These standards are applied to all students in a fair and even-handed manner. The faculty continuously review technology for material and trends which are significant to the curriculum and instructional activities. The faculty frequently are involved in the placement of newly graduated students and as a result have a commitment to the graduate and the employer that the student is adequately prepared for the job they are assuming. Since many of our faculty are also engaged or have been engaged in the computer industry, they feel a special commitment to the proper preparation of students to assume jobs in the industry. As a result of this commitment, the discussion among faculty during

the Task Force meetings and in other work groups, centers on the proper preparation of students for jobs in the industry. High standards in the preparation of students for employment is the common core commitment of the entire departmental faculty.

In what ways does the program demonstrate personal and professional ownership that generates accountability?

All fulltime faculty and many adjunct faculty serve on the department's taskforce. Monthly meetings of this group frequently involve discussions and decision making which demonstrates commitment to the program and the college. All full-time faculty members and many adjunct faculty serve on the Task Force. Proposing a curriculum change, reporting committee activity, and discussion of issues fosters group member accountability. The department also engages in the faculty evaluation process that all ACC faculty participate in. This process involves student evaluation of instruction and periodic preparation of an instructional portfolio. The portfolio is made up of materials which demonstrate an individual faculty member's teaching style, philosophy, and practices. The portfolios are reviewed by the department chairs and the assistant department chairs. This process also fosters faculty accountability.

[b] Responsiveness to community needs and satisfaction of community demand

In what ways does the program address a verifiable need for the student, community, and society?

Austin is known as a high technology center. It has many employers who specialize in computer & technological products. IBM, Dell, National Instruments, Samsung, Abbot Labs, and 3M are prominent examples. Austin has many other technology companies which employ computer programmers and technicians. Our community has increasingly become one centered on the internet, computers, and computer derived technology. More and more this technology has become a part of everyday existence in our culture.

The unprecedented computer and high tech job growth in Austin and Central Texas in the 1990's has declined dramatically since 2002. Nevertheless, many economists predict these industries will continue to generate jobs [10]. Despite the weak economy and the foreign outsourcing phenomenon that have recently had a negative impact upon the computer industry job growth, the American Electronics Association predicts growth in technology employment over the next decade [9].

Specific analyses of the Austin and Central Texas regions of the state were conducted by the Texas Comptroller. These studies have rated the Research and Testing and the Computer and Data Processing Services industries very

highly as future sources of growth in serving the computer industry in the Capital (Austin and Central Texas) Region [7].

This job growth scenario is borne out by the Texas Workforce Commission (TWC) job growth projections. The TWC divides the state of Texas into several Workforce Development Areas [3], with the Capital Area and the Rural Capital Area WDAs being within the region serviced by Austin Community College. TWA studies show that Computer Support Specialists is the fastest growing occupation in the Capital and Rural Capital Areas and will add the most jobs requiring an associate degree through the year 2010 [1].

The occupations displayed in the following tables [4] were selected from all of the occupations categorized by the TWA [5] as being those for which the Computer Studies Department provides the educational preparation.

The following tables present the TWA's estimated annual openings in job growth in the Capital and Rural Capital WDAs between the years 2000 - 2010 [2]:

Capital WDA

Computer and Information Scientists, Research	5
Computer and Information Systems Managers	115
Computer and Mathematical Occupations	1,530
Computer Hardware Engineers	90
Computer Operators	15
Computer Programmers	130
Computer Science Teachers, Postsecondary	10
Computer Software Engineers, Applications	295
Computer Software Engineers, Systems Software	365
Computer Specialists	1,505
Computer Specialists, All Other	70
Computer Support Specialists	315
Computer Systems Analysts	170
Computer, Automated Teller, and Office Machine Repairers	35
Database Administrators	30
Graphic Designers	40
Network and Computer Systems Administrators	100
Network Systems and Data Communications Analysts	55
Sales Representatives, Wholesale and Manufacturing, Technical	75
Technical Writers	20

Rural Capital WDA

Computer and Information Systems Managers	15
Accountants and Auditors	20
Computer and Mathematical Occupations	175

Computer Specialists	175	
Computer and Information Scientists, Research		0
Computer Programmers	0	
Computer Software Engineers, Applications	20	
Computer Software Engineers, Systems Software		25
Computer Support Specialists	70	
Computer Systems Analysts	20	
Database Administrators	5	
Network and Computer Systems Administrators		15
Network Systems and Data Communications Analysts		10
Computer Specialists, All Other	10	
Computer Hardware Engineers	0	
Computer Science Teachers, Postsecondary		0
Technical Writers	0	
Sales Representatives, Wholesale and Manufacturing, Technical		0
Computer Operators	0	

LIST OF REFERENCE DOCUMENTS

1. Summary Texas Workforce Projections for the Capital Area and the Rural Capital Area Workforce Development Areas (WDA)
2. Breakdown of the Texas Workforce Projections for the Capital Area WDA and the Rural Capital Area WDA by specific computer related job codes
3. Map indicating the geographic boundaries for the Capital Area WDA and the Rural Capital Area WDA
4. Specific job descriptions for the computer related job codes covered in item 2 above
5. Texas Workforce Projections for all job codes for the Capital Area WDA
6. 2004 Greater Austin Area Target Occupations Survey Results [also provided to the Survey Subcommittee/Bill Tucker]
7. Texas Comptroller Regional Outlook for the Capital Region – Directions for Growth 2002
8. Texas Comptroller Regional Outlook for the Capital Region – Economic Trends and Outlook 2002
9. American Electronics Association, Offshore Outsourcing In An Increasingly Competitive And Rapidly Changing World – A High Tech Perspective, March 2004

10. The New Migrants, Austin American Statesman, November 15, 2004
Section D, p. 1

Describe the results of the program's most recent assessment of community need.

The most recent assessment of community need by ACC was summarized in the last institutional review. This was an employer survey conducted in conjunction with the Austin Software Council. This survey confirmed needs consistent with the departments' curriculum. However, it is somewhat dated and does not reflect the general decline in employment in the computer technology arena.

How do the program's five-year enrollment trends compare with those of the College overall?

ACC's enrollment trend during the last five years has been a steady and consistent increase. The department enrollment has been a steady decrease that appears to have "bottomed out." As a result, the department enrollment when compared to the college's doesn't compare favorably; that is, the college is up and the department is down. However, this can be explained, largely, by the national phenomenon of decreasing enrollment in computer science and computer information systems programs. This in turn, is the direct result of the decline in high technology industry employment associated with the high tech economic downturn which has been occurring over the last several years. Because Austin is a high tech employment center, it, too, has experienced declining demand for new high tech employees. The high tech industry has tried to compensate for some of its lost business by economizing on employment. There has also been a significant trend to take many high tech jobs offshore. That is, to ship software development and other related projects to foreign high tech centers. As a result we have seen the following trends in enrollment in our discipline:

Computer Science Enrollment down at UT - Austin 25% from 2002 - 2003

Source: The Daily Texan 3/30/04

Nationwide Computer Science Enrollment dropped 23% from 2002 - 2003

Source: Computing Research Association

Nationwide Computer Science Enrollment dropped 28% since 2000

Source: Computing Research Association

ACC COSC/BCIS (transfer courses) enrollment was down 16% from 2002 - 2003
Significantly less than UT-Austin (25%) AND the nationwide trend (23%)

ACC COSC/BCIS (transfer courses) enrollment was down 34% from 2000 - 2003

Slightly higher than the nationwide trend of 28%

[c] Accessibility to students and identification of unnecessary barriers

Analyze when and where courses are offered (by campus, time of day, mode of delivery).

The Computer Studies Department offers courses on six major ACC campuses and several other teaching sites including:

Campuses - Northridge, Rio Grande, Cypress Creek, Eastview, Riverside, and Pinnacle.

Instructional Sites: San Marcos, Round Rock, Fredericksburg.

The department offers courses throughout the day and evening from 8 am until 9:30 pm Monday through Thursday. Courses are offered on Fridays and Saturdays as well.

The department offers many courses through the college's distance learning program. The number of courses offered in this format has increased steadily over the last decade. As a result the enrollment in these courses has also increased.

List the number of sections taught (by location).

See Table 1 .

List the number of sections closed or canceled per course.

See Table 2.

How does each of the five -year demographic trends (gender, ethnicity, age group) for this program compare to the overall college trend? (List the source of your information.)

See Table 3 - Gender Ethnicity.

	White	Black	Hispanic	Asian	Amerind	NonRes	Other	Female	Male	Total
CS Dept	59.5%	7.8%	17.1%	7.4%	1.1%	5.0%	2.1%	34.5%	65.5%	
College	60.5%	7.0%	22.0%	5.0%	1.0%	2.5%	2.0%	56.0%	44.0%	

See Table 4A - Age.

Identify any unnecessary barriers to students, especially those who are educationally disadvantaged and not well served by other colleges.

ACC has traditionally had the lowest tuition rates in the area. Students who are economically disadvantaged have many opportunities for financial aid at ACC.

The college also operates a daycare facility for student/parents who have small children. ACC has arranged for many campuses to be on the public transportation routes. The college has an active support program for disabled

students. The department supports and participates in all of these programs and activities.

[d] Student outcomes including participation and successful-completion rates

How do course completion rates (A-B-C-D rates) for courses within this program compare to College norms?

See Table 5.

	A	Au	B	C	D	F	W	Oth	Total
CS Percent	40%	0%	19%	9%	2%	6%	23%	0%	100%
College*	30%	0%	26%	15%	3%	5%	21%	0%	100%

* College averages computed from sample of several departments

What are the program completion or graduation rates (compared to intent as well as overall) for this program?

See Table 6.

How do withdrawal rates for courses compare to College norms?

See Table 5.

What do the results of the program's student learning outcomes assessments (departmental final exams, exit tests, standardized tests, etc.) indicate about the program?

The department has conducted an assessment of its Fundamentals of Programming course annually for the last 7 to 10 years. The assessment is structured in a systematic manner. There is an objective and somewhat standardized assessment instrument given to all students enrolled in the course each spring as part of the final exam. This data is then compared to a stated goal that resembles the following: "At least 70% of the students will pass the assessment exam with a score of 80% or higher."

Generally the results of this assessment are good. While the results do not always match the stated outcome, the process of conducting the assessment is instructive for the faculty teaching the course. Since the assessment occurs in the same course each year, the department faculty has the additional benefit of comparing results form year to year.

The assessment is organized and supervised by a faculty committee reporting the department Task Force. Each year a chairperson is appointed and a number of faculty are assigned to the committee. The committee designs the assessment instrument and plans the assessment. The department head duplicates and administers the exam through the faculty teaching the course.

The committee then summarizes the data and reports the results to the Task Force at its first or second Fall meeting.

[e] Measures of program quality and educational value added

- **Academic Standards**

What are the processes and procedures that the department uses to maintain academic standards and achieve consistency within the department?

The faculty have written a set of standard syllabuses for each course offered in the Department curriculum. The standard syllabuses include a minimum set of objectives and topics to be covered in each course. All faculty are required to write their course syllabuses using the standard syllabus as a minimum and adding to it the material that uniquely describes the course as they will teach it. This will do much to assure consistency within the department as far as the teaching of different sections of the same course are concerned.

The department also conducts a program of assessment. The course/s which are assessed are required to complete a standard exam so that the results may be compared and summarized. This contributes to a minimum standard of achievement in the course/s assessed.

All of the departments courses are selected from the THECB WECM course list or from the THECB Common Course Numbering System. Together these lists make up a set of common course names, numbers, and descriptions for all community colleges in Texas. Since all community colleges must use these lists of courses for their own courses, a common set of courses exists statewide for all community colleges. Thus, for example, ITSE 1331 at ACC is the equivalent course for ITSE 1331 at any community college in Texas.

- **Curriculum**

What procedures are used to assure that the curriculum is current and adequately meets the needs of students?

The Departmental Task Force meets regularly to consider changes or additions to the curriculum. Much of the focus of this activity centers around adding new related technology to the curriculum and removing obsolete technology from it. The department has an industry advisory committee which meets regularly (4 or 5 times per year) to discuss the departments instructional program and curriculum. All major curriculum changes or initiatives are presented to the advisory committee prior to seeking college and coordinating board approval from them. The faculty, the advisory committee, and the department's leadership work in close coordination to produce a computer studies curriculum which is as current as feasible.

Are learning outcomes defined for courses and the program? Yes No
Are course texts up-to-date?. Yes No
Are course and program listings in the ACC Catalog up-to-date? Yes No
Do all courses have up-to-date syllabi on file? Yes No

Evaluate the use of instructional resources (including those in the library). The Computer Studies faculty make extensive use of the college's instructional resources.

Within the department, each course has a laboratory component. As a result, each course uses a laboratory facility as an integral part of instruction.

On most campuses, the department has computer screen projectors allowing the instructor to project a computer screen image that all students may see. This provides the opportunity to demonstrate much of the software used in department courses. In addition, many textbooks come with PowerPoint presentations which are used by faculty on the projectors.

Many faculty make use of the college's Blackboard Course Management System to organize and present materials to students. This is especially true of distance learning courses.

The faculty teaching distance learning also use the college's testing centers for administering exams. Other faculty use them for administering make-up exams.

Faculty frequently make assignments requiring research outside of the classroom. As a result, the ACC library facilities are integral to the teaching of some departmental courses.

On some campuses, students make use of the developmental learning labs and tutors for their departmental course work.

Evaluate the extent to which technology impacts the mode of instruction, including the number of courses and sections taught via distance learning.

The department makes extensive use of current technology in teaching its courses. All classrooms are either equipped with video projection machines to display computer applications or can be equipped by borrowing a projector from the ACC Media Centers. Many department courses are offered as distance learning courses. The distance learning program at ACC offers a structured method for students to complete college courses without attending regularly scheduled class meetings. All work is completed at home or work and submitted to the instructor for grading. Tests are taken in the ACC testing centers. Many of the distance courses use the Blackboard Course Management System to present course materials and assignments. Those distance courses which do not use Blackboard had instructor web sites to provide student information related to the course.

Many of the faculty use the Blackboard system for non-distance learning courses. The Blackboard System is a convenient vehicle for collecting all of the written documents which the instructor used in his/her course and presenting them to the students. It also provide a convenient means of communicating with students outside of the classroom.

The college and the department provide state of the art laboratory facilities for all departmental courses. These labs are staffed by full-time professional technicians to assure functionality, availability and security.

As is to be expected, the department is in the forefront in using technology in the classroom.

See Table 1 - TEL column for Distance Learning.

Evaluate the extent to which instruction is focused on problem solving, active learning, and work-based elements.

All departmental courses have both a lecture and laboratory component. The laboratory component is focused on practical exercises, problems and assignments based on the course content. Many of the exercises parallel what the student will encounter if they become employed in occupations using the technology. Thus, the department is committed to making practical problem solving a component of every course.

In addition, the Department has a capstone course which allows students approaching graduation to engage in practical problem solving which integrates much or all that they have learned in their program of study at ACC.

System Analysis and Design (ITSE 1450) is the capstone course for the following degrees and certificates:

- Computer Programming Associate of Applied Science Degree
- Computer Programming C++ Track and Java Track Certificates
- Local Area Network Systems Network Administration Associate of Applied Science Degree
- Microcomputer Applications Support Associate of Applied Science Degree
- Computer Information Technology Database Certificate

The focus of the System Analysis and Design course is to provide the students with a comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

The course emphasizes the analysis and design phases of the systems development life cycle, including practice in entity relationship modeling and systems prototyping. Students work with the following analysis and design topics and tools:

- Systems Development Life Cycle
- Analyzing Requirements
- Data Flow Diagrams, Data Dictionary

- Data and Process Modeling
- Object Modeling
- Entity Relationship Modeling
- Database Models
- User Interface Design
- Network Models
- Structure Charts

Some faculty members have noted that they would like to emphasize Use-Cases and UML diagrams more in this course in the future. Use-Cases should be incorporated as documentation from the user interviews during the Information Gathering phase. Standard design tools do not support the design of classes and objects as naturally as UML diagrams do. The UML class diagrams and sequence diagrams are particularly helpful. Use cases and UML diagrams are becoming standard industry tools and should be more thoroughly integrated into this course.

In the course, the students work in teams of 3 to 5 members to complete a design and implementation of a computer information system. Each team includes students from the programming, networking, database and applications support areas of study. This class is unique because it gives students an opportunity to work with students from other areas in the computer field in a setting similar to an actual project in industry.

The teams use various tools throughout the design and implementation. Microsoft Visio is used as a CASE tool. Microsoft Word is used for documentation. Each team selects the programming language and technologies that they use to implement the project solution.

Each team typically makes three presentations during the semester. The first presentation is on the project requirements. The second presentation is on the team's design, and the third includes the demonstration of the prototype system.

System Analysis and Design is a very important course for preparing students to enter the workforce. Students leave the course with a thorough understanding of various business models, of how to prepare, ask, and evaluate questions of a business, and of working in a team to complete the analysis and design of a business information system. The course also provides a crucial hands-on experience with the complete systems development life cycle. The project implementation provides an opportunity for the students to use all of the different skills that they have learned while earning their degree. This combination of team work, technical work and "real world" project simulation make System Analysis and Design an effective capstone course.

List below the current discipline-specific courses within the program and the date of the latest review.

See Table 6B.

- **Faculty**

Do all faculty teaching in the program meet SACS requirements?

Yes No (if no, please explain)

What is the ethnic diversity of the faculty?

See Table 7.

	White	Black	Hispanic	Asian	Amerind	Female	Male	Total
CS Dept.	65 80.2%	5 6.2%	3 3.7%	8 9.9%	0 0.0%	22 27.2%	59 72.8%	81 100.0%
College	1453 80.1%	84 4.6%	143 7.9%	78 4.3%	13 0.7%	829 45.7%	984 54.3%	1813 100.0%

What evidence is there that faculty are staying current in their respective disciplines and instructional methodologies?

The faculty all complete professional development through attending technology seminars, ACC's Professional Development workshops, and the LAN faculty attended a "Secure IT" Conference to retrain for the Security Curriculum. Many of the faculty completed additional graduate hours in the Computer field. This allows the faculty to bring the new technology into the classroom. Many of the faculty are using more technology in their lecture portion of the class.

What recognition has been given to faculty within the last year?

Very little recognition has been given to the faculty within the last year. Until 5 years ago the department could nominate an instructor for teaching excellence and usually 2 or 3 from our department would be selected. Now only 1 adjunct and 1 full-time faculty is recognized from the whole college for teaching excellence. The NISOD teaching excellence award nomination allows 2 per "Dean Area" and there is not a process except that the dean appoints the winners for the "Dean Area".

Describe professional development activities in which program faculty participate.

- Pre-Semester Faculty meetings where Industry experts serve as speakers and panelist
- Attend Professional Conferences and Present
- ACC's Professional Development Seminars
- Departmental Instructor led training seminars for a specific area

What percent (and the total number) of faculty participate in formal professional development activities on a regular basis?

100% of the faculty participate in formal professional training.

Describe the types of discipline-related professional development activities offered.

- Professional seminars e. g. the 2 day Microsoft .net seminar.
- Pre-semester training in specific areas e.g. Office XP, XML, .Net session, and specific course related orientation.

What percent of sections do full-time faculty teach?

55% Full-time and 45% Adjunct (Spring 2004) See Table 10.

What percent of contact hours do full-time faculty teach?

55% Full-time and 45% Adjunct (Spring 2004) See Table 9.

Are student evaluations of instruction within acceptable range? Yes No

To what extent are alternative modes of instruction incorporated into classes?
The instructors use the traditional lecture method along with demonstrations, powerpoint slides, group interactive exercises, collaborative learning modules, and hands-on activities.

- **Student Satisfaction**

Do student course evaluations demonstrate satisfaction with courses?

Yes No

[f] Adequacy of program resources and efficiency of resource use

Describe the overall adequacy of resources (human, technological and capital, facilities, and fiscal) available to the program for providing effective program delivery and outcomes.

The adequacy of the faculty, labs, and classrooms are presently sufficient. The Technology plan takes care of the computer replacement in the labs but the additional software and hardware required as new degree specializations are added as well as evolving of new technology requires additional funding in order for the program to move forward.

What is the ratio of full-time to adjunct faculty (by course and for the program overall)?

See Table 10.

Course	Sections	Full-time	Part-time	FT Percent	PT Percent
Sem Total	158	87	71	55%	45%

How up-to-date is the equipment used by the program? The computers used in the laboratories is "state-of-the-art." Each lab is on a computer replacement schedule which allows equipment to be replaced every three years. Other equipment such as printers and servers are currently state of the art but no replacement schedule exists. The classrooms used for departmental classes at some campuses are equipped with computer screen projectors. These vary in age and quality but are generally adequate. The remaining campuses such as Rio Grande, Northridge, Pinnacle, Riverside, and Cypress Campus use rolling carts from the department due to specific software requirements. It would work better if the classrooms were equipped with projectors that an instructor could attach their computer to. The networking laboratories are equipped at a minimum level needing routers, switches, and security software. The machines used in them have hard drive "caddies" allowing each student to have a hard drive on which they configure networking software.

Identify possibilities for improving the efficiency of the program's use of resources.

The department is efficient in use of resources. However, the decline in enrollment has produced gaps in the scheduling of departmental labs and "department assigned classrooms." As a result, many of the classrooms are also now being used for non-computer studies courses. This is not true of the labs except at the Cypress Creek Campus. The logistics and management of the labs would be infinitely more difficult if they were used for non-departmental activities or instruction. It is possible that some efficiency might be created by reducing the number of hours that labs are available for student use and thus staffed by departmental lab technicians. In general, however, there is little room for improved efficiency of the use of program resources.

[g] Comparison of program performance, price, and enrollment with that of alternate local suppliers

How is the program competitive with similar programs offered by other institutions or schools in the service area in terms of performance, cost to students, and enrollments?

Alternate local suppliers consist of:

1. Vocational / Technical Schools
2. Accredited Colleges and Universities

Vocational / Technical Schools:

Vocational / Technical Schools do not issue a degree; rather they issue a technical certification. This technical certification is in the form of short, intensive courses followed by the technical exam issued by the vendor. These schools are not accredited by any state agency; they are certified by the vendors. The main customers of these

training schools are employees of local companies and some individuals. Some of the larger training centers offer both online and onsite courses.

The cost of the programs ranges anywhere from \$3,000.00 to \$10,000.00. As an example, at New Horizons Learning Center, the A+ certification course costs \$3,400.00. There is no transferability of courses between ACC and the training institutes.

The downturn in the economy has affected all the training institutes. Some smaller ones have had to close their doors. At the New Horizons Learning Center, the enrollments have dropped sharply. The number of customers from corporations and individuals has dropped.

Accredited Degree Granting Institutions

There is several accredited degree granting institutions in Austin. Some examples are DeVry University, St Edwards University, University of Texas, Texas State, Southwestern University, ITT Technical Institute¹, Virginia College at Austin². Some of the degrees offered are shown below:

School	Degree Offered	Credit Hours	Average duration	Cost
Austin Community College	▪ Associate of Science in Computer Science	62 – 64	2 years	In-district \$39.00 per credit hour
	▪ Associate of Applied Science in:			Out-of-District \$97.00 per credit hour
	▪ LAN	65 – 67	2 years	
	▪ Microcomputer Application Support	61 – 64	2 years	
	▪ Computer Programming	62 – 67	2 years	
▪ Certificates:				
	▪ Network Administration	28 – 29	1 year	
	▪ Database	28	1 year	
	▪ Web Specialist	17	1 semester	
ITT Technical Institute	▪ Associates of Applied Science in Computer Network Systems	96	2 – 3 years	Approximately \$10,000 per year
	▪ Associates of Applied Science in Software Applications and Programming	96		

¹ No transferability between ACC and this institution

² No transferability between ACC and this institution

School	Degree Offered	Credit Hours	Average duration	Cost
	<ul style="list-style-type: none"> ▪ Associates of Applied Science in Web Applications ▪ 	96		
St Edwards University	<ul style="list-style-type: none"> ▪ Bachelor of Computer Information Systems 	120	4 years	\$8,660.00 per 12- 18 credit hour semester for full time students. \$578.00 per semester credit hour for part-time students
	<ul style="list-style-type: none"> ▪ Bachelor of Computer Science 	120	4 years	
	<ul style="list-style-type: none"> ▪ Certificate of College Credit in Computer Science 	50	less than 2 years	
DeVry University	<ul style="list-style-type: none"> ▪ Bachelor of Computer Engineering Technology 	153	3 – 5 years	Online: \$460.00 per semester credit hour. Onsite: \$420.00 per semester credit hour
	<ul style="list-style-type: none"> ▪ Bachelor of network and Communication Management 	130		
	<ul style="list-style-type: none"> ▪ Bachelor of Computer Information Systems 	139		

Computer Science enrollments at all schools are in a slump in the wake of the dot-com demise and the increase in offshore outsourcing. All across the area, degree granting institutions and technical schools are reporting drops in the number of student applications. It is expected that with a continued improvement in the economy and new curricula being introduced at schools, enrollments will see a rise again.

[h] Direct and indirect program-related revenues and costs to the College

Identify the major sources of revenue for the program, including grants, partnerships, etc.

All revenue for this department comes from college sources. Most of it through traditional budgetary channels and a small part from grants such as the National Science Foundation Grant related to Workforce Skill Standards. Partnerships include MSDNAA, Novell SPR/ALA and Oracle Academic Alliance.

Compare program costs to those of other ACC programs.

It is difficult to compare the cost of the Computer Studies program to other programs due to the technology requirements versus programs with other requirements or no requirement at all. It would be more feasible to compare the cost of our program to other college's Computer Studies program. We are able to defray a lot of the costs through software academic alliances including Microsoft, Oracle, and Novell. Funds received through a National Science Foundation Grant have also reduced the cost to the college.

Compare the program's actual expenditures to the approved program budget for the previous two years.

The Computer Studies department was able to finish each of the last two years under budget.

TRANSFER or WORKFORCE AREA-SPECIFIC INFORMATION

Only Workforce Programs complete the items below.

Report/status from latest external accrediting agency visit

ACC has recently been reaffirmed and accredited by the Southern Association of Colleges and Universities. The computer studies department was included in this accreditation process. Generally, no deficiencies were noted related to the department. The exception was faculty credentials. The faculty credential issue, however, was college-wide not departmental. The department, however, was heavily impacted. A number of departmental faculty were required to take steps to make their credentials match the minimum requirement specified in the SACS guidelines. A few faculty members were reassigned to other departments in which their academic credentials met the guidelines. Some were required to take additional courses. And some were dismissed from the college. Much of the turmoil created by this problem is now behind us. But the loss of many highly skilled instructors will be problematic for many semesters to come. While they have been replaced with "credentialed" faculty, they have not necessarily been replaced by better performing faculty.

The department is also accredited periodically by the Texas Higher Education Coordinating Board. The most recent accreditation by this agency of the department was satisfactory and identified no deficiencies.

When was the most recent program revision?

The Computer Studies Department Curriculum is, more or less, in a constant state of revision. Many changes in courses and degree programs were instituted during the last academic year. These changes included elimination of some courses, additions, and changes to some courses. Two new specializations have been approved by the College curriculum committee. They are a Security Specialization within the Computer Information Technology Local Area Networking and User Desktop Support within the Micro Application Support Degree plan.

Number of declared majors intending to complete a program who complete degree/certificate requirements within 6 years
See Table 20.

Average number of semesters it takes for students to gain degree/credential.
Data Not Available!

Number of graduates within the last three years
See Table 6.

Demographics of graduates
See Table 21.

Percent of graduates who are employed within one year of graduation.
See Table 22.

What evidence exists that program completers (or near completers) are successful on the job? What, if available, are their beginning salaries?
While hard evidence is difficult to come by, several students stop into the Computer Studies Office each semester and discuss their positions in the technology industry. The practicum students are finding permanent employment as a direct result of their internships. Many of our students already are employed in the computer field and are taking courses to learn the new technology.

Percent of employers indicating satisfaction with graduates.
A survey of the employers is planned for the next academic year. From personal discussions with the Industry Advisory Board members, the feedback is always positive.

Discuss the most recent results of Focus Group or internal survey of employers. During the last academic year, as a result of meetings with the Austin Technology Council and the Capital Area Workforce Commission, we have updated our curriculum to give our students the skills they need to find employment. To give three concrete examples of this cooperation, Computer Studies will offer a two year degree program in Local Area Network security beginning in the Fall, 2005 and the department in collaboration with the Electronics department is working on a wireless degree plan. In the Fall, 2005, Computer Studies will also be offering a two year degree program in User Desktop Support. These efforts have grown out of our interactions with the Council, the Workforce Commission, and related labor information.

Number of employers indicating need for more graduates

The Greater Austin Area Workforce Board, and Texas Workforce Commission in the Capital Area show Computer Support Specialists as the Number #1 occupation adding the most job between 2000 and 2010. The U. S. department of Labor also says that Computer Support Specialists are projected among the fastest growing occupations over the 2002 - 2012 period.

Provide evidence of SCANS competency integration into course syllabi and programs.

All syllabuses have incorporated appropriate SCANS competencies into the syllabuses. This was accomplished by the production of standard syllabuses for all Departmental courses.

How often does the program's advisory committee meet to discuss curriculum issues?

The program advisory committee meets twice a year and additional meeting are called as needed.

When and where are advisory committee minutes maintained and posted?

The minutes are maintained in the chair office and will be posted on the College's web site.

Evidence of recent review of curriculum by external advisory committee.

The minutes are maintained in the chair office and will be posted on the College's web site.

Advisory committee validation of entry level skills

Austin Competency Analysis Profile, ACAPS, was completed in Data Base Administration, Network Design and Administration, Programming and Software Engineering, Technical Support and Web Development in 2002. Advisory committee members participated along with other industry experts. The reports were presented, reviewed, and then approved by the Computer Studies Advisory Committee.

Only Transfer Programs complete the items below.

Number and percent of graduates who transfer within one year of graduation.

Data not Available.

Number of articulation agreements with universities and colleges

In 2002 a state-wide committee was formed to develop a field of study for Computer Science. The chair was on the committee. Articulation agreements include Texas State University, and St. Edwards. Other institutions have transfer guides.

Number of courses that transfer

Seven courses are academic transferrable courses. Three workforce courses are transferred through the discretion of the receiving institution.

Number of student complaints about problems with course transfer

The feedback that we get from the students and the receiving institution are positive and we have not had "complaints".

Discuss the results of the most recent Survey/focus group of transfer institutions.

The majority of the Computer Science students transfer to Texas State University. Texas State University reports show that our student transfer and maintain or exceed the transfer grade point.

Discuss data from transfer institutions if available.

The Higher Education Coordinating Board Reports shows the success of the Austin Community College students transferring to senior insititutions.

Number of students transferring successfully.

Between 20% and 25% of Workforce students are known to be transferring successfully according to data supplied by or derived from documents of the Texas Higher Education Coordinating Board. There is some variation by program and academic year, but the data provided here are representative of the overall program achievements.

CONCLUSIONS

Based on the information collected and analyzed during the program review process, what are the major conclusions of this review of the program? Summarize them here and complete the *Program Status* form.

1. The department meets ACC's mission statement by providing both workforce programs and academic courses leading to Associate's Degrees
2. The department meets or exceeds all of the core values of the College.
3. The department should improve on the retention rate of students in beginning level courses
4. Based on a survey, students are highly satisfied with the quality of instruction and the ways in which that meets their educational and career goals.
5. The department has a very active, very diverse Advisory Committee and a highly-qualified student-centric faculty.

6. Within the context of declining enrollments, we need to find innovative ways to offer courses and programs which serve the needs of our diverse student community.

7. Within the context of teaching in an ever changing field, our faculty are presented with constant professional development needs in order to enhance the curricula to provide up-to-date skills and knowledge to our students.

PROGRAM VISION STATEMENT

State the program's vision or preferred future for the next five years. The vision statement should provide direction to the program as it makes improvements to enhance its effectiveness and efficiency. The Computer Studies Department faculty must continually examine the curriculum. Degree plans and courses which have little or no demand need to be revised or removed from the curriculum. The faculty must also examine new technologies and devised curricula for those that are reflected in the Austin high tech community. New technologies already identified are computer security, and wireless technician. The curricula for Security are ready to be developed and implemented as it has received approval for the Fall 2005 semester. Department faculty are also participating in discussions with other ACC departments regarding wireless technology and its implications for the department.

RECOMMENDATIONS

What does the self-study team recommend for improving or maintaining the quality of the program? Summarize the recommendations here and complete the *Quality Improvement Plan* form.

1. Market all Computer Studies Department programs to increase enrollment.
2. Continue to develop additional curricula and examine existing curricula for additions, changes, and modification which may be necessary to maximize responsiveness to community needs.
3. Expand faculty professional development opportunities to keep abreast of the latest technology.
4. Develop at least one degree or certificate which can be completed through distance learning via the Virtual College of Texas in conjunction with Texas State Technical College - Waco.
5. Implement an Associate of Applied Science degree in Computer Security.

6. Improve the Computer Studies department student retention through advising, tutoring and faculty follow up services.
7. Review the assessment instrument to insure that it adequately and accurately measures student outcomes.
8. A systematic method of curriculum review and study needs to be created so that the CIT program can continue to keep abreast of changes in computer software and technology.

ADDITIONAL COMMENTS

This process is very laborious and needs to be reviewed.

APPENDIX

List all documents that you used in your report:
LIST OF REFERENCE DOCUMENTS

1. Summary Texas Workforce Projections for the Capital Area and the Rural Capital Area Workforce Development Areas (WDA)
2. Breakdown of the Texas Workforce Projections for the Capital Area WDA and the Rural Capital Area WDA by specific computer related job codes
3. Map indicating the geographic boundaries for the Capital Area WDA and the Rural Capital Area WDA
4. Specific job descriptions for the computer related job codes covered in item 2 above
5. Texas Workforce Projections for all job codes for the Capital Area WDA
6. 2004 Greater Austin Area Target Occupations Survey Results [also provided to the Survey Subcommittee/Bill Tucker]
7. Texas Comptroller Regional Outlook for the Capital Region – Directions for Growth 2002
8. Texas Comptroller Regional Outlook for the Capital Region – Economic Trends and Outlook 2002

9. American Electronics Association, Offshore Outsourcing In An Increasingly Competitive And Rapidly Changing World – A High Tech Perspective, March 2004

10. The New Migrants, Austin American Statesman, November 15, 2004 Section D, p. 1

11. The ACC Computer Studies Institutional Review Report, 2000.

When you have completed this report, send it via e-mail to the Coordinator for Institutional Assessment (rwall@austincc.edu) as an attachment.

ATTACHMENTS – TABLES

Table 1

List of campuses and number of sections taught each semester.

	CYP	EVC	NRG	PIN	RGC	RVS	EXT	TEL	SIT	Total
Fall, 99	31	7	53	36	60	28	8	17	2	242
Spr, 00	23	9	57	33	69	29	6	19	2	247
Sum, 00	5	4	25	10	30	9	1	12	0	96
Fall, 00	27	9	55	35	67	27	8	21	1	250
Spr, 01	19	8	59	31	74	27	10	20	2	250
Sum, 01	5	5	24	10	34	8	1	12	0	99
Fall, 01	21	5	60	30	65	25	5	21	1	233
Spr, 02	17	5	56	30	66	21	7	20	1	223
Sum, 02	4	4	20	7	32	4	0	13	0	84
Fall, 02	14	4	56	29	52	21	3	20	0	199
Spr, 03	13	2	53	18	59	16	6	21	2	190
Sum, 03	3	0	20	2	23	3	0	13	1	65
Fall, 03	14	3	46	22	42	17	3	20	0	167
Spr, 04	9	4	44	18	43	14	6	20	0	158
Total	205	69	628	311	716	249	64	249	12	2503

Table 2

List of courses and number of sections closed for each semester

	Course	CYP	EVC	NRG	PIN	RGC	RVS	EXT	TEL	SIT	Total
Fall, 99	COSC1301	2					1	1	1		5
	CIS1003						1	1			2
	CIS1023								1		1

	CIS1033				1				1	2	
	CIS2003	1							1	2	
	CIS2103							1		1	
Sem Total		3	0	0	1	2	2	2	1	2	13
Spr, 00	COSC1301	2			1	1	2	2			8
	CIS1003							1	1		2
	CIS1023	1	1								2
	CIS1033		1								1
	CIS1063						1				1
	CIS2243	1									1
	CIS2313				1						1
Sem Total		4	2	0	2	1	2	4	0	1	16
Sum, 00	COSC1301		1								1
	CIS1003							1	1		2
	CIS1023	1	1								2
	CIS1033		1								1
	CIS1063						1				1
Sem Total		1	3	0	0	0	0	2	0	1	7
Fall, 00	COSC1300	1				1		1			3
	COSC1301	2						1	1		4
	COSC1320	2	1					1	1		5
	CIS1309				1						1
	CIS2359	1									1
Sem Total		6	1	0	1	1	0	3	0	2	14
Spr, 01	COSC1300		2	1			1	1			5
	COSC1301	1			1	3	1			2	8
	COSC1315								1		1
	COSC1320	1							1	1	3
	ITSC1309	1				1	1	2			5
	ITSC2335				1						1
	ITSE1331							1			1
	ITSE2431	1									1
Sem Total		4	2	1	2	4	3	4	2	3	25
Sum, 01	COSC1301			1				2			3
	COSC1315	1				1					2
	COSC1320			1		1					2
	ITNW1337		1								1
	ITSE1331						1				1
Sem Total		1	1	2	0	2	1	2	0	0	9
Fall, 01	COSC1300	1			1		2	1			5
	COSC1301	1	1		1			2		3	8
	COSC1315	1									1
	COSC1320	1					1				2
	ITNW1337		1								1
	ITSC1309					1					1
	ITSE1331		1		1	2					4
	OTSE1344				1	1					2
	ITSE1418					1					1
	ITSE2321	1					1				2
	ITSE2357				1						1

	ITSE2331	1									1
	ITSW1407					1					1
Sem Total		6	3	0	5	6	4	3	0	3	30
Spr, 02	COSC1300	1	1		1	2	2	2			9
	COSC1301		1			1	1	1		3	7
	COSC1315			1		3	2	1			7
	COSC1320			2							2
	BCIS1305				1						1
	ITNW2356			1							1
	ITSC1307					1					1
	ITSC1309							1		1	2
	ITSE1331		1		1	2	1				5
	ITSE1344						1		1		2
	ITSE1419				1						1
	ITSE2317								1		1
	ITSE2321	2		1	1	1					5
	ITSW1327									1	1
Sem Total		3	3	5	5	10	7	5	2	5	45
Sum, 02	COSC1300		1			1					2
	COSC1315		1		1	1	1				4
	COSC1320				1		1				2
	ITSE1331			1	1						2
	ITSE1344						1				1
	ITSE1345					1					1
	ITSE2321	1		1	1						3
Sem Total		1	2	2	4	3	3	0	0	0	15
Fall, 02	COSC1300		1			1	1	2			5
	COSC1301	1								1	2
	COSC1315		1	1							2
	COSC1320			1	1						2
	ITMC1342			1							1
	ITNW1325					1					1
	ITSC1309	1									1
	ITSC1327					1					1
	ITSE1331						1				1
	ITSE1344	1									1
	ITSE1345					1					1
	ITSE2321	3				1					4
	ITSE2349				1						1
	ITSW1307	1									1
Sem Total		7	2	3	2	5	2	2	0	1	24
Spr, 03	COSC1300	1	1	1	1		1	2			7
	COSC1301		1							2	3
	COSC1315	1				3	1				5
	COSC1320				1	1					2
	ITMC1319				1						1
	ITMC1342				1						1
	ITNW1325				1						1
	ITNW1337					1					1
	ITSC1309						1				1

	ITSC1313		1		1	1				3	
	ITSC1325				2					2	
	ITSE1331			1	1					2	
	ITSE1344				1		2			3	
	ITSE1345					1				1	
	ITSE1327	1		1	1					3	
	ITSE2321	2		1	1	1	1			6	
Sem Total		5	3	4	12	8	6	2	0	2	42
Sum, 03	COSC1300				1	1					2
	COSC1301		1								1
	COSC1315			1		1	1				3
	ITMC1319					1					1
	ITMC1342				1						1
	ITNW1325				1	1					2
	ITSC1313					1					1
	ITSC1325				1	1					2
	ITSC1327					1					1
	ITSC2337					1					1
	ITSE1344					1					1
	ITSE1345			1							1
	ITSE1309					1					1
	ITSE2321					1					1
Sem Total		0	1	2	4	11	1	0	0	0	19
Fall, 03	COSC1300			1	1	1	1				4
	COSC1301						1	1		1	3
	COSC1315			3		6	1				10
	COSC1320				1	4					5
	COSC2415					1					1
	BCIS1305		1								1
	ITNW2405			1							1
	ITSC1313		1								1
	ITSC1325					2					2
	ITSE1331			1	1	1					3
	ITSE1344	1				1					2
	ITSE2309					1					1
	ITSE2317	1				2					3
	ITSE2321			1	1						2
	ITSE2357					1					1
	ITSW1304			1							1
	ITSW1307			1							1
Sem Total		2	2	9	4	20	3	1	0	1	42
Spr, 04	COSC1300					1		1			2
	COSC1301	1				1		1		2	5
	COSC1315	1		1		2	1				5
	COSC1320					1					1
	INEW2338			1							1
	ITMC1342					1					1
	ITSC1307					1					1
	ITSC1309					1					1
	ITSC1313	1	1								2

ITSC1325				2						2
ITSC2337						1				1
ITSE1344			1							1
ITSE2309						2				2
ITSE2349						2				2
ITSE2357						1				1
ITSE2359						1				1
Sem Total	3	1	3	2	15	1	2	0	2	29
TOTALS	46	26	31	44	88	35	32	5	23	330

Table 3

Computer Studies Students by Ethnicity & Gender

	White	Black	Hispanic	Asian	Amerind	NonRes	Other	Female	Male	Total
Fall, 99	2998	241	759	518	34	133	19	1946	2762	4708
	63.7%	5.1%	16.1%	11.0%	0.7%	2.8%	0.4%	41.3%	58.7%	
Spr, 00	2880	284	697	534	25	139	38	1884	2713	4597
	62.6%	6.2%	15.2%	11.6%	0.5%	3.0%	0.8%	41.0%	59.0%	
Sum, 00	1094	111	263	251	8	49	28	840	964	1804
	60.6%	6.2%	14.6%	13.9%	0.4%	2.7%	1.6%	46.6%	53.4%	
Fall, 00	2853	281	774	505	32	154	68	1990	2677	4667
	61.1%	6.0%	16.6%	10.8%	0.7%	3.3%	1.5%	42.6%	57.4%	
Spr, 01	2807	316	749	562	43	176	82	1885	2840	4725
	59.4%	6.7%	15.9%	11.9%	0.9%	3.7%	1.7%	39.9%	60.1%	
Sum, 01	958	120	265	229	13	73	34	747	945	1692
	56.6%	7.1%	15.7%	13.5%	0.8%	4.3%	2.0%	44.1%	55.9%	
Fall, 01	2499	287	722	541	43	151	64	1671	2636	4307
	58.0%	6.7%	16.8%	12.6%	1.0%	3.5%	1.5%	38.8%	61.2%	
Spr, 02	2247	282	645	406	30	197	63	1460	2407	3867
	58.1%	7.3%	16.7%	10.5%	0.8%	5.1%	1.6%	37.8%	62.2%	
Sum, 02	865	136	242	136	16	53	33	589	881	1470
	58.8%	9.3%	16.5%	9.3%	1.1%	3.6%	2.2%	40.1%	59.9%	
Fall, 02	2130	263	665	359	38	177	82	1383	2331	3714
	57.4%	7.1%	17.9%	9.7%	1.0%	4.8%	2.2%	37.2%	62.8%	
Spr, 03	1874	218	579	282	31	173	76	1178	2055	3233
	58.0%	6.7%	17.9%	8.7%	1.0%	5.4%	2.4%	36.4%	63.6%	
Sum, 03	644	86	177	104	13	62	27	499	594	1093
	58.9%	7.9%	16.2%	9.5%	1.2%	5.7%	2.5%	45.7%	54.3%	
Fall, 03	1639	224	539	222	20	134	52	1001	1826	2827
	58.0%	7.9%	19.1%	7.9%	0.7%	4.7%	1.8%	35.4%	64.6%	
Spr, 04	1575	206	454	195	30	133	56	915	1734	2649
CS Dept	59.5%	7.8%	17.1%	7.4%	1.1%	5.0%	2.1%	34.5%	65.5%	
College	60.5%	7.0%	22.0%	5.0%	1.0%	2.5%	2.0%	56.0%	44.0%	

Table 4AComputer Studies Students By Median Age:
COSC

Year	Spring	Summer	Fall
1999			26.8
2000	27.2	26.5	26.0
2001	26.7	27.2	26.1
2002	26.2	26.6	25.9
2003	26.5	26.4	26.3
2004	26.1		

Computer Studies Students By Median Age:
COIS

Year	Spring	Summer	Fall
1999			29.5
2000	29.5	29.9	32.6
2001	32.0	33.5	32.4
2002	32.8	32.4	31.8
2003	31.3	32.0	31.1
2004	30.8		

ACC Student Median Age
Fall, 2003 26.2

Table 5

Computer Studies Grade Distribution Summary

	A	Au	B	C	D	F	W	Oth	Total
200F000									
COSC	1090	5	560	279	53	196	754	0	2937
CIS	653	3	355	159	38	115	415	0	1738
201S000									
COSC	1039	6	498	238	68	205	747	0	2801
CIS	777	3	358	139	39	109	482	0	1907
201U000									
COSC	521	4	181	82	22	56	520	1	1387
CIS	270	5	141	46	3	26	125	0	616
201F000									
COSC	993	7	540	224	54	178	668	0	2664
CIS	661	9	340	131	30	84	390	0	1645
202S000									
COSC	844	4	387	180	60	168	600	0	2243
CIS	678	5	353	124	33	76	331	0	1600
202U000									
COSC	457	4	167	63	16	48	136	0	891

CIS	238	6	152	61	5	23	92	0	577
202F000									
COSC	762	4	425	246	60	163	517	0	2177
CIS	630	4	348	129	24	45	309	2	1491
203S000									
COSC	674	0	338	174	45	162	461	2	1856
CIS	609	6	252	122	22	69	279	0	1359
203U000									
COSC	347	3	139	64	14	29	94	0	690
CIS	498	3	81	37	5	13	66	0	703
203F000									
COSC	565	3	308	177	51	134	359	0	1597
CIS	511	5	264	105	31	76	196	1	1189
204S000									
COSC	570	0	290	157	45	106	335	7	1510
CIS	524	2	233	93	27	46	204	3	1132
Total	13911	91	6710	3030	745	2127	8080	16	34710
CS									
Percent	40%	0%	19%	9%	2%	6%	23%	0%	100%
College*	30%	0%	26%	15%	3%	5%	21%	0%	100%

Percents are rounded to whole numbers.

* College averages computed from sample of several departments

Table 6A

Computer Studies Degrees & Certificates*

CIP Code	11.0101		
	AAS	Cert	Total
1999 - 2000	6		6
2000 - 2001	9		9
2001 - 2002	8		8
2002 - 2003	8		8
Totals	31		31
CIP Code	11.0201		
	AAS	Cert	Total
1999 - 2000	9		9
2000 - 2001	26	1	27
2001 - 2002	27	42	69
2002 - 2003	19	26	45
Totals	81	69	150
CIP Code	11.0901		
	AAS	Cert	Total
1999 - 2000			

2000 - 2001			
2001 - 2002			
2002 - 2003	25	17	42
Totals	25	17	42
CS Department			
Totals	137	86	223

* All data from THECB Reports

Table 6B
Computer Studies Course List & Review Dates

Course	Last Review Date
COSC1300	2004-2005
COSC1301	2004-2005
COSC1315	2004-2005
COSC1320	2004-2005
COSC2415	2004-2005
COSC2425	2004-2005
BCIS1305	2004-2005
ITCC1306	2004-2005
INEW2338	2004-2005
ITMC1319	2004-2005
ITMC1342	2004-2005
ITNW1325	2004-2005
ITNW1337	2004-2005
ITNW2317	2004-2005
ITNW2405	2004-2005
ITSC1307	2004-2005
ITSC1309	2004-2005
ITSC1313	2004-2005
ITSC1325	2004-2005
ITSC1327	2004-2005
ITSC2337	2004-2005
ITSC2364	2004-2005
ITSE1331	2004-2005
ITSE1344	2004-2005
ITSE1345	2004-2005
ITSE1411	2004-2005
ITSE1450	2004-2005
ITSE2302	2004-2005
ITSE2309	2004-2005
ITSE2317	2004-2005
ITSE2321	2004-2005
ITSE2339	2004-2005
ITSE2349	2004-2005

ITSE2356	2004-2005
ITSE2357	2004-2005
ITSE2359	2004-2005
ITSE2431	2004-2005
ITSE2443	2004-2005
ITSW1304	2004-2005
ITSW1307	2004-2005

Table 7

Computer Studies Faculty by Ethnicity & Gender FY 2004

	White	Black	Hispanic	Asian	Amerind	Female	Male	Total
Adjunct	41 78.8%	2 3.8%	3 5.8%	6 11.5%	0 0.0%	13 25.0%	39 75.0%	52 100.0%
Full-Time	22 84.6%	3 11.5%	0 0.0%	1 3.8%	0 0.0%	9 34.6%	17 65.4%	26 100.0%
Other	2 66.7%	0 0.0%	0 0.0%	1 33.3%	0 0.0%	0 0.0%	3 100.0%	3 100.0%
CS Dept.	65 80.2%	5 6.2%	3 3.7%	8 9.9%	0 0.0%	22 27.2%	59 72.8%	81 100.0%
College	1453 80.1%	84 4.6%	143 7.9%	78 4.3%	13 0.7%	829 45.7%	984 54.3%	1813 100.0%

Table 8 – NOT USED

Table 9 Full-time Faculty Sections Taught & Contact Hours (COSC)

	F/T Sections	P/T Sections	F/T Percent	Contact Hours	Contact Percent
Fall, 99	5	36	12%	18.0	12.2%
Spr, 00	9	43	17%	34.1	18.0%
Sum, 00	5	15	25%	18.0	25.0%

Fall, 00	44	105	30%	163.4	30.2%
Spr, 01	50	87	36%	183.3	36.9%
Sum, 01	19	41	32%	70.1	32.2%
Fall, 01	44	96	31%	163.4	32.1%
Spr, 02	37	81	31%	139.8	32.4%
Sum, 02	20	29	41%	73.7	41.4%
Fall, 02	44	72	38%	166.7	39.1%
Spr, 03	41	59	41%	154.2	42.1%
Sum, 03	18	19	49%	66.5	49.3%
Fall, 03	44	46	49%	163.4	49.7%
Spr, 04	35	46	43%	129.3	43.8%

Full-time Faculty Sections Taught & Contact Hours (COIS)

Fall, 99	82	103	44%	315	45.9%
Spr, 00	78	114	41%	296	41.9%
Sum, 00	35	39	47%	131	48.3%
Fall, 00	50	48	51%	154	47.1%
Spr, 01	57	48	54%	210	54.9%
Sum, 01	21	17	55%	79	56.3%
Fall, 01	47	46	51%	176	51.5%
Spr, 02	49	53	48%	186	49.4%
Sum, 02	20	14	59%	77	60.4%
Fall, 02	48	45	52%	183	53.0%
Spr, 03	47	44	52%	179	53.1%
Sum, 03	20	9	69%	75	69.9%
Fall, 03	45	31	59%	172	60.6%
Spr, 04	52	25	68%	194	68.3%

Full-time Faculty Sections Taught & Contact Hours (Department)

Fall, 99	87	139	38%	333.0	40.0%
Spr, 00	87	157	36%	329.7	36.8%
Sum, 00	40	54	43%	149.0	43.4%
Fall, 00	94	153	38%	317.3	36.6%
Spr, 01	107	135	44%	393.5	44.7%
Sum, 01	40	58	41%	149.0	41.6%
Fall, 01	91	142	39%	339.2	39.9%
Spr, 02	86	134	39%	326.1	40.3%
Sum, 02	40	43	48%	150.6	49.3%
Fall, 02	92	117	44%	349.4	45.3%
Spr, 03	88	103	46%	333.3	47.3%
Sum, 03	38	28	58%	141.8	58.4%

Fall, 03	89	77	54%	335.3	54.7%
Spr, 04	87	71	55%	323.1	55.8%

Table 10

Number of Sections Taught by FT and PT by Course

	Course	Sections	Full-time	Part-time	FT Percent	PT Percent
Spr, 04	COSC1300	23	9	14	39%	61%
	COSC1301	31	10	21	32%	68%
	COSC1315	15	11	4	73%	27%
	COSC1320	9	7	2	78%	22%
	COSC2415	2	1	1	50%	50%
	COSC2425	2	1	1	50%	50%
	BCIS1305	12	7	5	58%	42%
	INEW2334	1	1	0	100%	0%
	ITCC1306	2	1	1	50%	50%
	ITMC1319	2	1	1	50%	50%
	ITMC1342	4	3	1	75%	25%
	ITNW1325	7	5	2	71%	29%
	ITNW1337	2	2	0	100%	0%
	ITNW2317	2	2	0	100%	0%
	ITNW2405	1	0	1	0%	100%
	ITSC1307	4	2	2	50%	50%
	ITSC1309	1	0	1	0%	100%
	ITSC1313	1	0	1	0%	100%
	ITSC1325	4	4	0	100%	0%
	ITSC1327	1	0	1	0%	100%
	ITSC2337	2	1	1	50%	50%
	ITSC2364	2	2	0	100%	0%
	ITSE1331	5	4	1	80%	20%
	ITSE1344	2	1	1	50%	50%
	ITSE1345	3	0	3	0%	100%
	ITSE1411	3	3	0	100%	0%
	ITSE1450	2	2	0	100%	0%
	ITSE2302	1	1	0	100%	0%
	ITSE2309	3	2	1	67%	33%
	ITSE2317	2	2	0	100%	0%
	ITSE2321	4	3	1	75%	25%
ITSE2356	1	1	0	100%	0%	
ITSE2431	1	0	1	0%	100%	
ITSE2443	1	1	0	100%	0%	
ITSW1304	1	0	1	0%	100%	
Sem Total		158	87	71	55%	45%

Tables 11-19 -- NOT USED

Table 20

Declared Majors & Degrees

COSC (11.02)	Majors	Degrees
1998 - 1999	611	9
1999 - 2000	344	9
2000 - 2001	615	27
2001 - 2002	773	69
2002 - 2003	745	45
Averages	618	32

COIS (11.01)	Majors	Degrees
1998 - 1999	450	5
1999 - 2000	888	6
2000 - 2001	724	9
2001 - 2002	455	8
2002 - 2003	330	8
Averages	569	7

COIS (11.09)	Majors	Degrees
2002 - 2003	0	42
Averages		

Table 21

Declared Majors & Degrees

COSC										
(11.02)	Majors	Male	Female	White	Black	Hispc	Asian	Amrind	Inter	Unkn
1998 - 1999	611	322	289	342	67	113	72	3	14	0
1999 - 2000	344	202	142	187	24	47	58	4	16	8
2000 - 2001	615	367	248	303	50	101	110	4	37	10
2001 - 2002	773	499	274	357	65	142	131	7	55	16
2002 - 2003	745	523	222	355	60	144	102	5	58	21
COIS										
(11.01)	Majors	Male	Female	White	Black	Hispc	Asian	Amrind	Inter	Unkn
1998 - 1999	450	269	181	269	32	76	56	2	15	0
1999 - 2000	888	512	376	507	84	158	105	6	27	1
2000 - 2001	724	405	319	374	76	150	86	4	27	7

2001 - 2002	455	258	197	241	50	95	46	5	16	2
2002 - 2003	330	192	138	176	39	65	35	1	11	3

COIS (11.09)										
	Majors	Male	Female	White	Black	Hispc	Asian	Amrind	Inter	Unkn
2002 - 2003	0	0	0	0	0	0	0	0	0	

COSC (11.02)										
	Degrees	Male	Female	White	Black	Hispc	Asian	Amrind	Inter	Unkn
1998 - 1999	9	6	3	6	1	2	0	0	0	0
1999 - 2000	9	5	4	4	1	0	1	1	2	0
2000 - 2001	27	10	17	13	1	2	6	0	5	0
2001 - 2002	69	40	29	40	4	6	12	1	5	1
2002 - 2003	45	25	20	27	2	4	4	1	5	2

COIS (11.01)										
	Degrees	Male	Female	White	Black	Hispc	Asian	Amrind	Inter	Unkn
1998 - 1999	5	0	5	3	1	1	0	0	0	0
1999 - 2000	6	1	5	1	1	1	3	0	0	0
2000 - 2001	9	2	7	4	3	0	1	0	1	0
2001 - 2002	8	5	3	6	1	0	1	0	0	0
2002 - 2003	8	3	5	4	2	2	0	0	0	0

COIS (11.09)										
	Degrees	Male	Female	White	Black	Hispc	Asian	Amrind	Inter	Unkn
2002 - 2003	42	32	10	20	5	9	4	2	2	0

Table 22
Graduate Employment Data

	Graduates	Number Employees	Percent
COSC (11.02)			
1995 - 1996	16	14	88%
1996 - 1997	9	7	78%
1997 - 1998	6	5	83%
1998 - 1999	9	8	89%
1999 - 2000	7	6	86%
2000 - 2001	27	25	93%
2001 - 2002	67	57	85%
Total	141	122	87%

	Graduates	Number Employees	Percent
COIS (11.01)			
1995 - 1996	13	13	100%
1996 - 1997	14	13	93%
1997 - 1998	11	11	100%
1998 - 1999	5	5	100%
1999 - 2000	6	5	83%

2000 - 2001	9	8	89%
2001 - 2002	8	7	88%
Total	66	62	94%

COIS (11.09)

2002 - 2003	No data	No data	No data
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Quality Improvement Plan for Computer Studies Program

Date Completed: May 04, 2005

Please complete a table for each of the self-study team's recommendations for improving or maintaining the quality of the program. The first table provides information to assist you in determining what to put in each "cell." If you need more tables, please use the copy/paste function in word.

Field	What to include
Recommendation #	Assign a number to this recommendation for tracking purposes.
Recommendation:	Taken from the <i>IPRS</i>
Planned Implementation date:	When does the program expect to begin to implement this recommendation?
Estimated Completion date:	When does the program estimate this recommendation to be fully implemented?
Action/Task	What steps must the program do to implement the recommendation?
Measure of Success/ Desired Outcome	If the recommendation is implemented, what about the program will be improved? What difference will the implementation of this recommendation make in relation to students, the program's purpose, the College's mission? How will this recommendation improve learning and help meet targeted objectives?
Estimated Cost(s)	This field is particularly important because the information the program enters here is the information that the Instruction/credit Cluster Group will consider in its Master Plan process. Consider changes that require one-time costs (equipment, renovation, etc.) and changes that require recurring costs (typically new positions).
Consequence if not funded	If this recommendation is not funded, how will students, the program, the College, or the community be negatively impacted?

Recommendation #	1
Recommendation:	Market all Computer Studies Department programs to increase enrollment.
Planned Implementation date:	June 1, 2005
Estimated Completion date:	Continuous Activity with Semester Review Checks
Action/Task	Develop brochures and flyers for career fairs and distribution at businesses and community centers, et.al.
Measure of Success/ Desired Outcome	15% increase in enrollment over 5-year period
Estimated Cost(s)	\$2,000/year
Consequence if not funded	Enrollments will remain stagnant or decline
Who is responsible?	CS Task Force

Recommendation #	2
Recommendation:	Continue to develop additional curricula and examine existing curricula for additions, changes, and modification which may be necessary to maximize responsiveness to community needs.
Planned Implementation date:	Ongoing
Estimated Completion date:	Ongoing
Action/Task	Research industry trends and review curricula
Measure of Success/ Desired Outcome	Satisfaction via student and industry surveys
Estimated Cost(s)	\$2,000
Consequence if not funded	Enrollments will decline
Who is responsible?	CS Task Force

Recommendation #	3
Recommendation:	Expand faculty professional development opportunities to keep abreast of the latest technology.
Planned Implementation date:	Ongoing
Estimated Completion date:	Ongoing
Action/Task	Provide faculty with advanced training opportunities via industry-related conferences and conventions
Measure of Success/ Desired Outcome	25% of faculty will acquire enhanced skills and knowledge each year
Estimated Cost(s)	\$10,000/year
Consequence if not funded	Quality of instruction will suffer
Who is responsible?	CS Task Force

Recommendation #	4
Recommendation:	Develop at least one degree or certificate which can be completed through distance learning via the Virtual College of Texas in conjunction with Texas State Technical College - Waco.
Planned Implementation date:	January 1, 2005
Estimated Completion date:	August 31, 2005
Action/Task	Redesign 6 current courses for delivery via distance learning
Measure of Success/ Desired Outcome	All 6 courses will be offered via distance learning
Estimated Cost(s)	\$21,000 (paid by grant)
Consequence if not funded	Loss of potential students due to limited DL offerings
Who is responsible?	CS Task Force

Recommendation #	5
Recommendation:	Implement an Associate of Applied Science degree

	in Computer Security.
Planned Implementation date:	September 1, 2005
Estimated Completion date:	August 31, 2007
Action/Task	Develop 9 new courses and acquire equipment to support them
Measure of Success/ Desired Outcome	All courses and developed and adequately supported with resources
Estimated Cost(s)	\$35,000
Consequence if not funded	Decline in enrollment due to lack of current courses
Who is responsible?	CS Task Force

Recommendation #	6
Recommendation:	Improve the Computer Studies department student retention through advising, tutoring and faculty follow up services.
Planned Implementation date:	Summer 2005
Estimated Completion date:	Ongoing
Action/Task	Hire hourly tutors. Train faculty in advising. Conduct student questionnaires to track student success related to tutoring/advising
Measure of Success/ Desired Outcome	20% increase in retention over 5 years
Estimated Cost(s)	\$30,000/year
Consequence if not funded	Students will be denied a better chance for success.
Who is responsible?	CS Task Force

Recommendation #	7
Recommendation:	Review the assessment instrument to insure that it adequately and accurately measures student outcomes.
Planned Implementation date:	September 1, 2005
Estimated Completion date:	March 1, 2006
Action/Task	Form committee to ascertain if current instrument measures correct course. If so, review instrument. If not, form committee to develop new instrument(s).
Measure of Success/ Desired Outcome	Valid assess instrument that predicts students' success in follow-up courses and that measures course content consistency
Estimated Cost(s)	0
Consequence if not funded	Unreliable assessment of students' success and course consistency
Who is responsible?	CS Task Force

Recommendation #	8
Recommendation:	A systematic method of curriculum review and study needs to be created so that the CIT program can continue to keep abreast of changes in computer software and technology.

Planned Implementation date:	Ongoing
Estimated Completion date:	Ongoing
Action/Task	Form a standing committee that is charged to recommend the time line and procedures for reviewing of the current degree plans, certificates, and individual courses. The faculty with that expertise and industry experts will do the review and make recommendations to the taskforce.
Measure of Success/ Desired Outcome	State of the Art curriculum. Success measured by collecting data through student and industry surveys in addition to using the labor market research.
Estimated Cost(s)	0.0
Consequence if not funded	The program will become stagnant and cause a declining enrollment.
Who is responsible?	CS Task Force