

**EDISON COMMUNITY COLLEGE  
BACCALAUREATE DEGREE PROPOSAL  
BACHELOR OF SCIENCE IN COMPUTER TECHNOLOGY**

**STAFF RECOMMENDATION**

**The establishment of a bachelor's degree program in Computer Technology at Edison Community College is not recommended.**

A bachelor's degree in Computer Technology is not required for employment for a majority of jobs in computer-related fields in the Southwest Florida workforce. Business and industry employers emphasize the need for specific computer-related skills and knowledge in employment hiring decisions.

Florida Gulf Coast University offers a full spectrum of bachelor's degree programs in Computer Information/Computer Science. The programs are growing and have large capacity, with a significant amount of available student slots. Edison Community College is involved in a 2 + 2 Distance Learning Initiative with Florida State University for the delivery of the BS in Computer and Information Science. International College delivers the BS in Information Technology in the region.

Edison Community College should collaborate with Florida Gulf Coast University to deliver a bachelor's degree program in Computer Technology through the existing Edison University Center. Edison CC reports that the baccalaureate program that it has proposed will allow the College's AS graduates to efficiently complete all requirements, including general education credits, within its 120-hour program length. A cooperative program developed by the two institutions should be designed to meet the needs of graduates of Edison's AS programs in Computer Technology and to ensure a smooth and efficient articulation from the AS program to the BS program.

**ISSUE MATRIX**

| <b>NEED</b>   |                |       |
|---|----------------|-------|
| 1. Is the need in an area of critical concern?  | No             | Pg. 4 |
| 2. Is the need large, reflecting a significant shortage?  | No             | Pg. 5 |
| 3. Is the need driven by proven student demand?   | No             | Pg. 5 |
| 4. Has employer demand exceeded supply for the past five years and is it projected in the next few years? | No             | Pg. 6 |
| 5. Is the need primarily related to programmatic content, nature of delivery system, or other?            | Not determined | Pg. 6 |

| <b>POTENTIAL IMPACT</b>   |                |       |
|---|----------------|-------|
| 6. Will the impact of the program have a positive impact on the current mission of the institution? | Not determined | Pg. 7 |
| 7. Will the program cover a significant percentage of the supply/demand gap?                        | No             | Pg. 7 |
| 8. Will program be of necessary quality associated with baccalaureate degree?                       | Yes            | Pg. 7 |
| 9. Will program increase access rather than simply redistributing applicants?                       | Not determined | Pg. 9 |
| 10. Will program have adverse impact on public or independent providers?                            | Not determined | Pg. 9 |

| <b>USE OF RESOURCES</b>  |     |        |
|--|-----|--------|
| 11. Are there other programs within commuting distance with unused capacity?   | Yes | Pg. 9  |
| 12. Is there a cooperative program currently in place?   | Yes | Pg. 10 |
| 13. Has a cooperative program been proposed?   | Yes | Pg. 10 |
| 14. Does the proposed program duplicate other programs currently within commuting distance or through distance learning? | Yes | Pg. 10 |
| 15. Are there issues related to access/articulation that if resolved would preclude need for the proposed program?       | Yes | Pg. 10 |

| <b>IMPLEMENTATION</b>  |     |        |
|--|-----|--------|
| 16. Does proposal address steps necessary for accreditation?   | Yes | Pg. 11 |
| 17. Does the program adequately address other impacts or requirements associated with accreditation? | Yes | Pg. 11 |
| 18. Is there performance data for accountability/evaluation?   | Yes | Pg. 12 |

| <b>ACCOUNTABILITY</b>                                  |     |        |
|--|-----|--------|
| 19. Is the program 120 hours in length                 | Yes | Pg. 12 |
| 20. Does the program comply with common prerequisites? | Yes | Pg. 12 |
| 21. Will the program be limited access?                | Yes | Pg. 12 |
| 22. Proposed admission requirements                    | Yes | Pg. 12 |

**COST EFFECTIVENESS**

|   |     |        |
|---|-----|--------|
| 23. Is the cost to the state less than other options?<br>2002 budget: \$600,000 – (for planning)<br>2003 budget: \$120,000 – (for planning & support)<br>\$143,050 – (operating budget)<br><br>Year 1: \$3,179 per FTE student<br>Year 5: \$3,665 per FTE student | No  | Pg. 13 |
| 24. Is the cost to the students less than other options?<br>Matriculation fee: \$50 per credit hr. (proposed)   | Yes | Pg. 14 |
| 25. Will program contribute significantly to meeting region workforce needs?  | No  | Pg. 14 |

## ANALYSIS OF CRITERIA

### **ISSUE 1: NEED**

#### **1. Is the need in an area of critical concern?**

- ?? Edison Community College's proposal states that the proposed bachelor's degree program will increase access to baccalaureate education for Southwest Florida citizens and will address the poor production of baccalaureate degrees in Southwest Florida and the State.
- ?? Most business and industry employers in today's workplace emphasize the need for specific computer-related skills and knowledge in employment hiring decisions.
- ?? In addition to specific work skills and experiences, job vacancies in computer support/computer technology occupations are typically filled by individuals with an associate in science degree and/or professional program certification.
- ?? The Florida Agency for Workforce Innovation provided the following projections for the years 2001 through the year 2009 for Florida Workforce Region 24: Charlotte, Collier, Glades, Hendry and Lee Counties:

#### **Fastest Growing Industries**

1. Transportation by Air
2. Hotels / Other Lodging Places
3. Health Services
4. Rubber / Misc. Plastics Products
5. Security and Commodity Brokers
6. Amusement & Recreation Services
7. Instruments and Related Products
8. Auto Repair Services & Parking
9. Business Services
10. Engineering & Management Serv.

#### **Industries Gaining the Most New Jobs**

1. Health Services
2. Local Government
3. Business Services
4. Eating / Drinking Places
5. Hotels / Other Lodging Places
6. Special Trade Contractors
7. Food Stores
8. Amusement & Recreation Services
9. Social Services
10. Engineering Management Serv.

#### **Fastest Growing Occupations**

1. Parking Lot Attendant
2. Medical Records Technician
3. Computer Support Specialist
4. Surgical Technician
5. Systems Analyst
6. Computer Engineer
7. Medical Assistant
8. Paralegal
9. Respiratory Therapist
10. Physician Assistant

#### **Occupations Gaining the Most New Jobs**

1. Salesperson, Retail
2. Cashier
3. General Manager & Top Executive
4. Waiter and Waitress
5. Laborer, Landscaper, Groundskeeper
6. Registered Nurse
7. Telemarketer, Door-to-Door Sales
8. General Office Clerk
9. Receptionist, Information Clerk
10. Nursing Aide and Orderly

?? Computer Technology is not expressly identified in the above lists of Growing Industries, but computer technology is now a required component of all industry operations.

?? In the above Occupations lists, "computer support specialist", "systems analyst" and "computer engineer" are growing occupations that require technical computer skills. There is no information to indicate that these positions would require a bachelor's degree for employment, although engineer positions typically require a baccalaureate education. Many of the positions identified in these lists require vocational/technical training, associate's level education or professional certification.

## **2. Is the need large, reflecting a significant shortage?**

?? The College analyzed the Florida Workforce Innovation's Industry & Occupation Projections to 2008 and identified computer-related jobs and an estimated number of job openings. The analysis projected 134 annual job openings during this period in Computer and Related Occupations with a baccalaureate degree requirement or preference.

?? The College conducted a survey of technology organizations in Southwest Florida to estimate the number of bachelor degree level hires over the next year. Seventy-eight of the 384 employers (20 percent) responded to the survey and projected 133 hires with a preferred or required baccalaureate during the year. Nearly one-third of the projection was for jobs in Networking Services. No information was provided to identify jobs in the computer-related occupation areas (listed below) that require a bachelor's degree for employment.

- Programming/Analysis
- Networking Services
- Internet Services
- Web Development
- Office Systems
- Multimedia Technology
- Radio/TV Programming
- Computer Information Technology
- Graphic Design
- Telecommunications/Telephone Support

?? As the economy continues to expand and become more diverse, there will be an increasing demand for individuals with a higher level of expertise in computer technology. In addition to meaningful work experience, individuals with baccalaureate-level education in computer science and information systems will be valued.

## **3. Is the need driven by proven student demand?**

?? Edison Community College's proposal targets nontraditional undergraduate students age 25 and up, career-oriented members of the labor force, who desire to attend either full- or part-time.

?? Edison CC reports that for the current year, 300 students are enrolled in one of the College's four technology-related AS or certificate programs, and 225 associate in arts (AA) degree-seeking students have declared Computer Science as a major.

- ?? Edison conducted a survey of students in computer technology classes and found 51 students (58 percent of the sample) expressed a High level of interest in the proposed bachelor's program.
- ?? In a survey of random course sections on Edison campuses, 31 respondents (7.6 percent of the sample) expressed a High level of interest in the proposed bachelor's program.
- ?? The College reports that 93 students have inquired at the Edison University Center about computer-related bachelor's degree programs.
- ?? The College projects a Fall 2003 initial enrollment in the proposed baccalaureate program of 60 students and a Fall 2007 enrollment of 94 students. The College now estimates 120 graduates in the first five years of the program.

**4. Has employer demand exceeded supply for the past five years and is it projected in the next few years?**

- ?? There has been no determination that there is unmet demand for employees in technical, computer-related positions that require a bachelor's degree.
- ?? Continued growth in population and demand for services in Southwest Florida will, most likely, increase demand in the future for employees with a baccalaureate level of education in computer science and information systems.

**5. Is the need primarily related to programmatic content, nature of delivery system, or other?**

- ?? It has not been determined that the region's workforce needs for employees with a bachelor's degree in Computer Technology are not being met.

**SUMMARY**

Available information failed to identify an unmet need for employees in positions that require a bachelor's degree in Computer Technology.

There is a lack of compelling need for the establishment of a discrete bachelor's degree program in Computer Technology at Edison Community College.

**ISSUE 2: POTENTIAL IMPACT**

**6. What impact would the program have on the current mission of the institution?**

- ?? The proposal states that Edison Community College's primary mission will continue to be the provision of associate degrees.
- ?? The ECC Purpose: To deliver high-quality, convenient and affordable learning opportunities to diverse populations.
- ?? The ECC Mission: To strive for excellence through innovation and continuous improvement.
- ?? One of 9 components of its stated mission is to provide: Access to baccalaureate degree programs through upper-division transfer, articulation, site-based programming and partnerships with colleges and universities. Edison currently serves upper-division students on-site through the Edison University Center, with 185 students enrolled in 12 programs.
- ?? In official publications, ECC now refers to itself as Edison College - *A Student-centered Learning College*.
- ?? The ramifications of becoming a baccalaureate-granting state college, as mandated through the SACS re-accreditation process, for the existing College programs and services, are difficult to determine prior to implementation. Issues of program emphasis and cost, future budgeting, resource allocation and staffing and student recruitment and enrollment will determine the direction of the institution.

**7. Will the program cover a significant percentage of the supply/demand gap?**

Supply/demand gap was not determined.

**8. Will program be of necessary quality associated with baccalaureate degree?**

Edison CC changed the proposed degree title to the Bachelor of Science (BS) degree in Computer Technology, "due to unfamiliarity in Florida's K-20 system with the Bachelor of Applied Science (BAS) degree."

a. Faculty

- ?? Currently, one full-time, PhD faculty, 5 master's level faculty and 11 adjunct faculty are identified for the proposed program. The proposal states that other full-time faculty may be assigned teaching responsibilities. One new full-time faculty hire is planned and the College has an additional open full-time faculty position for Computer Technology programs, to be filled as enrollment dictates. Starting with the second year of program implementation, the additional doctoral hire will be necessary.
- ?? Edison CC reports that the enrollment plan projects an additional 9 classes per semester for Computer Technology for the first academic year. The initial doctoral

faculty hire will teach four classes. Full-time professor overloads and adjunct professor assignments will comprise the remaining five classes per semester in the BS program.

b. Facilities

- ?? Instructional space and library resources and capabilities are appropriate for the delivery of baccalaureate courses in the proposed program.
- ?? Educational technology resources on campus to deliver the program are diverse and considerable.

c. Curriculum

- ?? A concentration in Networking will be implemented first. Networking will focus on fields of local and wide-area network development, network customer support, Internet networking and server management and data communications. A concentration in Programming will be implemented only after one year's operation of the Networking concentration. Programming will focus on areas of applications programming, systems programming, Internet development and software engineering.
- ?? Technology organizations/employers in the region will form the program's curriculum advisory board.
- ?? Course development will be complete when the final curriculum is approved by the College's Curriculum Committee, approved by the Vice President for Academic Affairs and submitted to the District Board of Trustees.

d. Prerequisites

- ?? The identified AS or AA degree program prerequisites serve as the upper division prerequisite.
- ?? The proposed curriculum is being designed to allow for the smooth progression of students from the College's three technology-related associate degree programs.

e. Standards of field

- ?? The College reports that technology employers have communicated their requirements for curriculum that provide discipline-specific competencies.
- ?? Thirty-seven percent of Edison's faculty currently hold the doctoral degree, and the proposed faculty hires for the baccalaureate program are designed to comply with SACS accreditation requirements.
- ?? The College reports that the planned faculty workload for the propose BS program is appropriate and sufficient for SACS accreditation standards for baccalaureate

delivery. Edison plans to follow the St. Petersburg College model of assigning four classes per baccalaureate professor, with the equivalent of three hours for student advisement. Model programs examined included those at the University of Minnesota and Utah Valley State College.

**9. Will program increase access or redistribute applicants?**

Unable to Determine.

?? The College states that the flexible scheduling of the new program will serve students who are not normally able to attend a university.

?? The College believes that maximum access will be achieved for Edison students through a seamless AS to BS articulation at one location.

**10. Will program have adverse impact on public or independent providers?**

Unable to Determine.

The establishment of the BS in Computer Technology at Edison may affect program delivery at Florida Gulf Coast University and at International College.

**SUMMARY**

Edison Community College has the infrastructure, resources and expertise to deliver a baccalaureate level degree program. A critical need for the establishment of a discrete bachelor's degree program in Computer Technology at Edison Community College has not been established.

**ISSUE 3: USE OF RESOURCES**

**11. Are there other programs within commuting distance with unused capacity?**

?? Edison Community College states that the proposed curriculum with associated 60-hour articulation arrangements is not currently offered by other institutions in the district. The College believes that the proposed baccalaureate curriculum, with its scheduling flexibility, is not duplicative of the FGCU degree programs.

?? Florida Gulf Coast University offers the following computer-related programs:

- BS in Computer Information Systems
- BS in Computer Science (restructured program to start Fall 2002)
- Minor in Software Engineering
- Minor in Computer Information Systems
- BS in Software Engineering (planned for Fall 2003)
- BS in E-Business (planned for Fall 2003)

- FEEDS Collaborative Center (statewide partnership)
  - Computer Networking Certification programs: Microsoft Certified System Engineer, Certified Internet Webmaster, A+ Certification, Cisco Certified Network Associate.
- ?? FGCU has identified 751 unused program slots (vacancies) in its baccalaureate CIS/CS programs for this year. Due to enrollment growth, FGCU has assigned two new faculty positions to these programs for the coming year.
- ?? FGCU believes that the proposed ECC BS in Computer Technology will duplicate FGCU's existing baccalaureate degrees in Computer Science and Computer Information Systems.
- ?? International College offers a BS degree in Information Technology and reports 225 unused program slots (vacancies) in its program for this year. Edison reports that International College has declined a request from Edison to form an agreement for delivery of this program.

**12. Is there a cooperative program currently in place?**

- ?? Edison Community College is a charter partner in Florida State University's 2 + 2 Distance Learning Initiative for the delivery of the BS in Computer and Information Science. Since Fall 2000, six students have enrolled in this program.

**13. Has a cooperative program been proposed?**

- ?? Florida Gulf Coast University reports interest in working cooperatively with Edison Community College through the articulation process to deliver its baccalaureate programs in computer science and computer information systems. FGCU data report that over 100 AS Edison graduates (and nearly 2,400 AA graduates) have enrolled at the University since its inception in 1997.

**14. Does the proposed program duplicate other programs currently within commuting distance or through distance learning?**

See item 11 and 12 above.

**15. Are there issues related to access/articulation that if resolved would preclude need for the proposed program?**

- ?? Edison's proposed program has been developed with significant flexibility in course scheduling and sequencing, with an emphasis on evening hours and weekend scheduling in eight-week sessions.
- ?? Florida Gulf Coast University reports interest in working cooperatively with Edison Community College through the articulation process to deliver its baccalaureate programs in computer science and computer information systems.

?? Edison expressed concern that the sequencing and requirements of FGCU's Computer Information Systems program require Edison AS graduates to take 39 additional credits of general education and prerequisite courses.

### **SUMMARY**

Bachelor degree programs in Computer Science and Information Systems are offered by Florida Gulf Coast University, with significant unfilled capacity. Edison Community College reports that its proposed baccalaureate program will allow the College's AS graduates to efficiently complete all requirements, including general education credits, within its 120-hour program length.

A cooperative baccalaureate program in Computer Technology should be jointly developed by Edison CC and FGCU that is designed to meet the needs of Edison's AS graduates. The Edison University Center should be utilized to deliver the program.

### **ISSUE 4: IMPLEMENTATION**

#### **16. Does proposal address steps necessary for accreditation?**

- ?? Spring 2002 - Submission of Substantive Change Notification to the Southern Association of Colleges and Schools (SACS).
- ?? Summer 2003 – Enrollment process for Fall 2003.
- ?? Summer/Fall 2003 – SACS Site Visit.
- ?? Fall 2003 – Program Implementation.

#### **17. Does the program adequately address other impacts or requirements associated with accreditation?**

- ?? Edison Community College was granted initial accreditation by the Southern Association of Colleges and Schools (SACS) in 1966. The College was reaccredited in 1971, 1981 and 1991 through normal, scheduled SACS procedures.
- ?? Edison Community College was visited in March 2001 as part of the re-accreditation process. Accreditation of the community college was reaffirmed during the December 2001 SACS meeting. The report included eight recommendations on "Educational Programs" and four recommendations on "Educational Support Services." SACS requested a follow-up report from the College on three report recommendations, due September 16, 2002.
- ?? The impact of SACS accreditation status change from the community college designation to a four-year state college designation on the delivery of educational programs and services by Edison will be difficult to determine in the short term and will necessitate additional review.

## **18. Is there performance data for accountability/evaluation?**

?? Plans call for the same annual review process that is in place for the evaluation of AS programs at ECC. Using the following performance indicators:

- Headcount by campus
- Retention by campus
- Graduation
- Upper division articulation
- Edison vs. System placement rate for program graduates
- Occupational projections

Academic programs have primary responsibility for reviews of instructional programs on a three-year cycle.

?? Administrators/employers in the region's computer technology organizations will form the program's curriculum advisory board.

?? The College's Capstone project will permit students and faculty to jointly assess the complete degree program.

### **SUMMARY**

College planning for program implementation has been comprehensive and appropriate.

The impact of SACS accreditation status change from the community college designation to a four-year state college designation on the delivery of educational programs and services by Edison will be difficult to determine in the short term and will necessitate additional review.

## **ISSUE 5: ACCOUNTABILITY**

### **19. Is the program 120 hours in length**

?? Edison's proposal states that the baccalaureate program will be 120 hours in length.

### **20. Does the program comply with common prerequisites?**

?? Edison reports that the proposed program will build upon and articulate directly with the College's three existing technology associate in science programs. The program will comply with common prerequisites and other requirements of state articulation agreements.

**21. Will the program be limited access?**

No.

**22. Proposed admissions requirements:**

?? Institutional admissions requirements will apply for Edison’s proposed baccalaureate program, as follows:

Students holding an AS degree from Edison Community College, or another state community college, in Computer Programming and Analysis, Networking Services Technology and Internet Services Technology will be able to continue in the computer technology baccalaureate program.

Students with an associate in arts degree with required program prerequisites will be able to enroll in the proposed program.

?? Because of state mandated program lengths, curriculum frameworks for AS programs and performance standards, students with the aforementioned degrees from any Florida community college may also enroll in the program.

**SUMMARY**

The proposed program appears to be consistent with bachelor of science curricula in place in public universities.

**ISSUE 6: COST EFFECTIVENESS**

**23. Is the cost to the state less than other options?**

Edison’s baccalaureate degree budget request (two proposed programs):

2002-03 - \$ 600,000 - for planning

2003-04 - \$ 120,000 – for planning

\$ 162,950 – for Operating budget: Public Services Management

\$ 143,050 – for Operating budget: Computer Technology

\$ 426,000

TOTAL: \$ 1,026,000 – for two years, for two programs

For the Computer Technology program, the College’s Funding Worksheet calculated the following:

First Year Funding Request: \$143,050

For 45 FTE students =

\$3,179 per FTE student (Year 1)

Fifth Year Funding Request: \$ 244,827  
For 66.8 FTE students =  
\$3,665 per FTE student (Year 5)

**24. Is the cost to the students less than other options?**

Edison has calculated the following state cost per FTE student:

|            | <u>Edison (Proposed Upper Division)</u> | <u>University</u> |
|------------|---|-------------------|
| Tuition:   | \$ 50.                                  | \$ 58.            |
| 40 hr./FTE | \$ 6,140.                               | \$ 7,630.         |

Edison reports the following tuition data:

|                                |                         |
|--------------------------------|-------------------------|
| Edison:                        | \$50. per credit hour   |
| Florida Gulf Coast University: | \$81.76 per credit hour |
| Barry University:              | \$270. per credit hour  |
| International College:         | \$290. per credit hour  |

The College has also identified a hidden cost emanating from additional course requirements and charges for AS graduates to obtain needed prerequisites (as required of an AA student) in order to enroll in many state university baccalaureate programs. Such charges would be eliminated with a fully articulated AS to BS program.

**25. Will program contribute significantly to meeting region workforce needs?**

It has not been determined that the region's computer technology workforce has an unfilled need for baccalaureate-level employees.

**SUMMARY**

A proposed baccalaureate degree program at Edison Community College would cost less in tuition and fees for students than at a public or private university. Planning, start-up and development costs for new program implementation represent additional costs to the State.