PROPOSAL

BACHELOR OF APPLIED SCIENCE
with a major in
Electronics Engineering Technology

Submitted to:
The Florida Department of Education

by
MIAMI DADE COLLEGE
School of Computer & Engineering Technologies

September 1, 2008

Revisions Submitted
December 16, 2008

Baccalaureate Program Proposal for Community Colleges

Cover Sheet

This completed cover sheet should accompany each application submitted to the Department of Education for review and approval to offer a baccalaureate program in accordance with Section 1007.33, Florida Statutes. **Please submit the application by September1 September 1** to the Commissioner of Education with a copy to the Chancellor of Community Colleges:

Commissioner
Florida Department of Education
325 West Gaines Street, Suite 1514
Tallahassee, FL 32399-0400

Chancellor
Division of Community Colleges
Florida Department of Education
325 West Gaines Street, Suite 1314
Tallahassee, FL 32399-0400

<table>
<tr><td>Institution Name:
Miami Dade College</td><td>Baccalaureate Degree Contact:
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Title: Director, School of Computer and Engineering Technologies
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Email: rwhite@mdc.edu</td><td>Baccalaureate Degree Secondary Contact: Dr. Diane King
Title: Director, Curriculum Development
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<tr><td>Degree Type (BA, BS, BAS):
Bachelor of Applied Science with a major in Electronics Engineering Technology</td><td>Complete Degree Program Title
Bachelor of Applied Science with a major in Electronics Engineering Technology

Department: School of Computer and Engineering Technologies, Engineering Department</td><td rowspan="2">Proposed Degree CIP Code :
15.0303
New ☐ Existing ☒
If this is an existing CIP, do the proposed prerequisites match those in the Common Course Prerequisites Manual?
Yes ☒ No ☐
If no, explain why:</td></tr>
<tr><td>Total Number of Credit Hours in Program: 134</td><td>Proposed Program Implementation Date:
Spring (January) 2010</td></tr>
<tr><td colspan="3">Proposal Check List:
√ Executive Summary
√ Description of Planning Process and Time Line for Implementation
√ Analysis of the Workforce Need for the Baccalaureate Program, Demand for Graduates, and Impact on Other Institutions
√ Alignment with K-20 Goals and Strategic Imperatives
√ Academic Content and Curriculum
√ Assessment of Current and Anticipated Resources to Deliver the Program
√ Enrollment, Performance, and Budget Plan
√ Accreditation Plan
√ Plan of Action in Case of Program Termination</td></tr>
</table>

Date program was approved by the Community College's Board of Trustees: June 17, 2008The college

President's signature affirms that all items on the Proposal Check List are included and accurate:

President's Signature: _____ **Date:** 8/27/2008

Contents

A. Executive Summary

Miami Dade College (MDC) offers an Associate in Science (AS) degree in Electronics Engineering Technology (EET) and is proposing to offer a Bachelor of Applied Science with a major in Electronics Engineering Technology (BAS EET) degree in accordance with Florida Statute Section 1007.33. The objective is to address the local workforce need for baccalaureate-level engineers and to provide a smooth articulation for MDC's AS graduates to attain a degree at a local institution that will support higher paying careers. On the statewide level, the Department of Labor occupation profile for Electronics Engineers in Florida projects annual growth to be 21% over the 10-year period 2004 to 2014[1]. The Florida Agency for Workforce Innovation, Labor Market Statistics Center projects the annual growth rate for all engineering occupations at 17.04% from 2007 – 2015.

Miami Dade College's Office of Institutional Research conducted surveys between June 2007 and September 2007 among employers, current students, and alumni to gauge the need for and level of interest in a baccalaureate degree in electronics engineering technology within Miami-Dade County. An initial student survey returned a statistical sampling of 153 respondents, comprised of both Associate in Science and Associate in Arts engineering majors. A second survey, conducted to identify the level of interest among Associate in Science engineering majors, yielded a sample of an additional 37 responses for a total survey sample of 190 subjects. The Employer survey was conducted among six companies who jointly employ over 12,000 workers in Region 23.

- In a sampling of current Associate in Science Electronics Engineering Technology majors (AS EET), 87% (32) who responded said they intend to pursue a baccalaureate degree after completing their associate's degree (Appendix 1). Note: MDC enrolls an average of 300 AS EET majors per year.
- Over 78% (25) of the AS EET student sample said they would enroll at Miami Dade College if it offered a bachelor's degree (Appendix 1).
- Employers who responded to the MDC Employer Survey projected as many as 200 incumbent workers would be interested in enrolling in a BAS EET if offered at Miami Dade College and local employers project a need to hire over 500 engineers with baccalaureate degrees over the next three to five years (Appendix 2).
- In responding to MDC's employer survey (Appendix 2), Florida Power and Light (FPL) indicated that potentially 200 employees would be interested in participating in a BAS EET program if offered at Miami Dade College, noting that it has not been successful in hiring local BS Engineering graduates who are able to pass FPL's qualification examinations. Miami Dade College, however, has a close partnership with FPL, having recently developed an AS degree in Electrical Power Technology pipeline partnership tailored specifically to FPL's needs and qualification exams. The proposed MDC BAS EET curriculum was developed with direct industry input from FPL and other local employers, and will provide students with the opportunity to acquire the skills and knowledge required by industry for entry-level electronics engineering positions.
- In a survey of combined Associate in Science and Associate in Arts engineering majors conducted in September 2007 (Appendix 4), 58.2% (92) of AA/AS engineering majors answered yes when asked if they would enroll in the BAS in Electronics Engineering Technology if offered at MDC.
- Cost and location were cited as the primary ways in which respondents perceive that MDC excels over other institutions offering similar degrees, with 87.3% (138) of respondents citing cost and 70.9% (112) citing location (Appendix 4).

The proposed MDC BAS EET degree will be unique within Miami-Dade County. The University of Central Florida and Florida A&M are the only two upper division institutions in the state that have CIP 15.0303

[1] Career Onestop. *Occupation Profile, Electronics Engineers except Computer, Florida*. sponsored by the US Department of Labor Retrieved January 11, 2008 from http://www.careerinfonet.org/occ_rep.asp?next=occ_rep&Level= optstatus111111111&jobfam=17&id=1&nodeid=2&soccode=172072&stfips=12&x=52&y=10

programs to which the Associate in Science in Electronics Engineering Technology articulates. Florida International University (FIU) and University of Miami (UM) do not offer a Bachelor of Applied Science with a major in Electronics Engineering Technology. These institutions offer the Bachelor of Science in Electrical Engineering (BSEE). These degree programs have different C.I.P. codes -- BSEE is 14.1001; BAS EET is (CIP 15.0303) -- and different prerequisites. The Associate in Science in Electronics Engineering Technology does not directly articulate to the Bachelor of Science in Electrical Engineering. Tuition differentials also make the BSEE programs less accessible to the MDC student population. The cost for the proposed BAS EET program at MDC will be approximately $11,264.50[2], compared to the BSEE at FIU at a cost of $16,973.73[3] and UM at a cost of $139,335.51[4] for Electrical Engineering degrees.

Planning Process

Planning meetings were conducted in May 2007 to discuss the feasibility of offering a BAS EET at Miami Dade College (Appendix 15). The steering committee was comprised of the MDC Campus President (Wolfson Campus), Dean of Academic Affairs (Wolfson Campus), Engineering Department faculty members, Director of the School of Computer and Engineering Technologies (SCET), Director of Curriculum Development for SCET, Chair of the Engineering Department, District Director of Academic Programs, and Associate Provost of Institutional Effectiveness.

To gauge the interest for the proposed baccalaureate degree, MDC faculty, administrators, and staff representatives developed and conducted industry, student, and alumni surveys between July 2007 and September 2007, evaluated state and national higher education initiatives, and reviewed local and national labor trends and statistics. MDC conducted an industry and faculty-led curriculum development process to address the continuing need for advanced electronics engineering technology education and training. A focus group of industry representatives was convened to identify workforce requirements and define skill sets and to develop an industry-, workforce-driven curriculum. Participants included representatives from Florida Power and Light, AT&T, Federal Aviation Administration (FAA), Florida Department of Transportation Miami Toll System, Carnival Cruise Lines, and an independent engineering consultant representing small business interests (Appendix 6).

Workforce Needs/Demands

- In a survey of Miami-Dade County small and large companies, conducted by MDC's Institutional Research Department in July 2007, respondents indicated the need to hire between 8 (small companies) and up to 500 (large companies) individuals with baccalaureate degrees for a variety of positions including electronics engineering (mean of 91 positions) over the next 3 – 5 years, which indicates the importance of the baccalaureate education to these employers (Appendix 2).
- Locally, Florida Power and Light projects an interest in enrolling up to 200 employees in a local BAS EET program and a need to hire up to 500 bachelor level engineers over the next three to five years. A sampling of other local employers indicated hiring needs for at least 80 bachelor level engineering positions over the next three years (Appendix 2).
- In surveys of current engineering students conducted between July and September 2007, 58.2% (92) of respondents indicated that they would enroll in the BAS in Electronics Engineering Technology if offered at MDC (Appendix 4).
- In a survey of MDC alumni conducted in July 2007, 35.5% (65) of respondents indicated interest in enrolling in the BAS in Electronics Engineering Technology if offered at MDC (Appendix 3). 62% (39) of the alumni respondents indicated that they are currently employed. Of those who identified their job function, 23% (n=8) specified an electrical or electronic-related job category. Of

[2] $86.75 per credit for tuition and fees for 134 credits based on 2008-2009 tuition rates. Source http://www.mdc.edu/tuition/ accessed July 28, 2008

[3] Tuition and fees for 128 credits. Source http://admissions.fiu.edu/costs.htm and http://www.fiu.edu/orgs/controller/UG%20Calculator.htm accessed July 28, 2008

[4] Estimated cost per credit based on $34,834 per year quoted for tuition and fees for a 4-year, 127 credit program. Source http://www6.miami.edu/ UMH/CDA/UMH_Main/0,1770,29532-1;44908-2;39181-2;61099-3,00.html accessed July 28, 2008

the respondents who selected "other" 24 out of 27 respondents identified an engineering related job responsibility closely aligned with the objectives of the proposed BAS degree.

Academic Content and Curriculum

The Bachelor of Applied Science with a major in Electronics Engineering Technology (CIP 15.0303) is designed to provide seamless articulation for AS EET graduates. It will also accommodate AS engineering technology majors in computer engineering technology, telecommunications, and biomedical engineering technology, and students entering with an Associate in Arts. As noted in Table 13, it incorporates the lower division technical core and general education courses from the AS EET and provides the upper division level advanced electronics engineering technology skills, with emphasis on the applied, practical application of engineering principles. Industry practitioners defined the job functions, job duties required for positions, and the knowledge, skills, tools, and equipment required to accomplish the goals. MDC Engineering faculty members further developed and refined the course competencies, learning outcomes, and learning resources.

MDC's BAS EET program will adhere to the requirements stipulated in the *Statewide Articulation Manual,* which stipulates 134 semester hours for the baccalaureate in electronics engineering technology (Appendix 7); consequently, the BAS EET will exceed the State of Florida's 120 credit hour limit. Students entering with an AS EET will be credited with 68 credits and complete 66 credit hours at the junior/senior level including 48 hours of engineering technology core courses at the senior level institution as mandated by the state for this degree program[5]. MDC plans to seek industry accreditation for the BAS EET program from the Accreditation Board for Engineering and Technology (ABET). Accordingly, it has incorporated ABET requirements into the curriculum to support this objective. It should be noted that ABET requires a ***minimum*** of 124 credit hours for engineering technology programs [ABET, 2008-2009].

Assessment of Current and Anticipated Resources and Budget to Deliver the Program

A preliminary assessment of required resources has been projected with estimated costs (Appendix 14) for the academic years 2009 through 2013 to include: facilities renovations for three classroom/laboratories ($100,000); specialized equipment and tools for the new laboratories, including, electronics, testing equipment, and computers for each classroom/lab ($283,364); additional library resources including subscriptions to IEEE journals, 1800 total new book titles, 200 new non-print books (e-books, CDs, etc.), 50 total new print serials, and one new database ($173,250), plus library support salaries ($34,000). Instructional support requires one additional full-time faculty, two additional part-time faculty, and a laboratory instructional support assistant ($340,255 for instructional support). Other staffing needs include one full-time program manager, a part-time academic advisor/recruiter, and a part-time clerical/administrative assistant ($353,889 other program personnel expenses).

The projected expenditure for academic years 2009 through 2013 is $1,642,854 (average of $410,714 per year). Enrollment projections are based on 24 students (10 FTEs) beginning in January 2010 and increasing to 90 students (61 FTEs) by 2012-13, assuming an annual attrition rate of 25%. Revenue from student fees is projected to be $311,398 for the 4-year start-up period, based on the 2008-2009 state tuition rate of $69.40 per credit hour and assuming 5% annual increases in tuition rates. The estimated FTE funding from the State is projected to be $546,965 based on the State's 2008-2009 funding formula of $3657 per FTE, leaving $810,739 to be funded from other sources. It is estimated that beginning in 2011-12, 15 students will graduate from the program with 100% placement due to the demand, and at projected starting salaries of $58,000 or higher.

[5] Florida Department of Education (FLDOE) Office of K-20 Articulation, Division of Strategic Initiatives*, Statewide Post-Secondary Articulation Manual, Career Ladder Agreement*, (2005). Retrieved October 1, 2007 from http://www.fldoe.org/articulation/pdf/AStoBaccalaureate_Agreemnts.pdf.

B. Description of Planning Process and Time Line for Implementation

Planning meetings were conducted beginning in May 2007 to discuss the feasibility of offering a BAS EET at Miami Dade College (Appendix 6). A task force comprised of faculty and administrators was organized. Members of the task force included the MDC Wolfson Campus President, Academic Dean, Associate Provost for Institutional Effectiveness, District Academic Affairs Director, Director of the School of Computer and Engineering Technologies (SCET), Engineering Department faculty members, the Director of Curriculum Development for SCET, the chair of the Engineering Department, and the SCET Industry Director. To determine the interest for the proposed baccalaureate degree, MDC's Institutional Research department, in collaboration with Engineering Department faculty and administrators, developed and disseminated surveys to current students, AS EET program alumni, and local employers (Appendices 1 – 4). The task force also evaluated state and national higher education initiatives and conducted research into the local, state and national labor markets. As part of its research process, MDC convened a focus group of industry representatives to identify workforce requirements and define skill sets (Appendix 6) leading to the development of an industry, workforce-driven curriculum. Participants included representatives from Florida Power and Light, AT&T, Federal Aviation Administration (FAA), Florida Department of Transportation Miami Toll System, Carnival Cruise Lines, and an independent engineering consultant representing small business interests.

The proposed Bachelor of Applied Science with a major in Electronics Engineering Technology is progressing according to the *State Board of Education Baccalaureate Proposal Approval Process.* A Letter of Intent to the Commissioner of Education was submitted in June 2008. Per State Board of Education guidelines, the attached proposal was submitted to the MDC Academic Leadership Council, Campus and College Academic and Student Support Councils (CASSC), the Executive Council, the College President, Dr. Eduardo Padrón, the Miami Dade College Board of Trustees and others as appropriate. Table 1 is an estimation of timeline dates, representing the projected timeline for the BAS approval and implementation process.

Table 1: Miami Dade College Estimated Implementation Timeline for Bachelor of Applied Science with a major in Electronics Engineering Technology Degree

DATE	Activity	Personnel Items
May 2007 – October 2007	BAS EET Task Force Planning meetings	N/A
May 2007	Industry focus group/DACUM curriculum development	N/A
May 2007 – February 2008	Faculty and staff conduct needs analysis and industry research	N/A
June 2007 – February 2008	Faculty conduct curriculum design and development; program definition; write course competencies	N/A
July – October 2007	MDC Institutional Research conducts employer, alumni, and student interest surveys;	N/A
February 2008 – June 2008	MDC faculty and administration conduct curriculum review and approval process	N/A
June 1,2008	MDC President submits letter of intent to the Commissioner of Education, Florida Department of Education (FLDOE) with a copy to the Chancellor of the Division of Community Colleges (DCC).	N/A
September 1, 2008	MDC President submits proposal for the Bachelor of Applied Science with a major in Electronics Engineering Technology degree to Commissioner of FLDOE with a copy to the Chancellor of the DCC.	N/A
September 1, 2008 – December 31, 2008	Accountability and Measurement (ARM) and DCC staff review and provide comments to FLDOE Commissioner. Review comments provided to MDC. MDC submits revised BAS EET degree proposal to FLDOE.	N/A

	Collaborative Review Team, headed by DCC, completes final review and makes recommendation to FLDOE Commissioner for approval or disapproval.	
January-April, 2009	The MDC BAS degree proposal is presented to the State Board of Education (SBE) at the SBE meeting.	N/A
	State submits MDC BAS degree proposal as an agenda item to the State Board of Education.	N/A
	State Board of Education votes on MDC proposal.	N/A
January 2009	Upon SBE approval of the program, MDC notifies the Southern Association of Colleges and Schools (SACS), about the addition of the BAS EET degree to MDC's baccalaureate program offerings	
April-May, 2009	Upon SBE approval, MDC begins the BAS EET implementation process including preliminary Capital Outlay for equipment, facility renovation, communication technology, other equipment, including purchase of information technology/teleconferencing equipment, and posting of faculty positions.	MDC posts: • 1 Full Time Program Manager • 2 Part Time doctoral-prepared faculty • 1 PT Instructional Lab Assistant • I PT MLS Faculty Librarian • 1 PT Program Support Staff • 1 PT Program Academic Advisor
June 2009	MDC advises potential BAS EET students to complete general education, common prerequisites, and/or elective courses in Fall 2009. MDC commences marketing campaign in the MDC service area and conducts Town Hall student and community meetings with industry leaders. Marketing media includes billboards, newsprint, and radio. MDC begins accepting applications for January 2010.	
July, 2009	MDC finalizes hiring of positions for July 2009	• 1 Full Time Academic Administrator (Program Manager) • 2 Part Time doctoral-prepared faculty • 1 PT Instructional Lab Assistant • I PT MLS Faculty Librarian • 1 PT Program Support Staff • 1 PT Program Academic Advisor
August, 2009	MDC library submits library resource recommendations. MDC begins ordering program equipment, technology, and furniture, office, and classroom supplies.	N/A
September-December, 2009	Engineering faculty refine core engineering courses by developing syllabi, instructional materials, including on-line course materials, and finalizing faculty course assignments. MDC finalizes textbook selection. MDC recruits, admits and advises new BAS EET students. MDC conducts orientation and advisement for new students for January 2010.	N/A
January, 2010	MDC offers the first BAS EET core courses.	MDC posts: 1 Doctoral-prepared FT faculty
March 2010	MDC conducts Student Services recruitment/retention activities for Summer/Fall 2010.	N/A
April 2010	MDC conducts advisement workshops for Summer/Fall 2010.	N/A
May/June 2010	MDC admits BAS EET students for Fall 2010 and conducts orientation/advisement activities.	N/A
July, 2010	MDC accepts applications for BAS EET students for Spring term 2011. MDC conduct assessment of BAS EET program and submits annual status report to the State.	MDC completes hiring of: • 1 Doctoral-prepared FT faculty

July 2009-2010	MDC Facilities/Renovation	N/A
August, 2010	MDC enrolls second cohort of students in engineering core courses.	N/A
September-December, 2010	MDC admits BAS EET students for Spring 2009 and conducts orientation/advisement activities.	N/A
January, 2011	MDC enrolls third cohort of students in engineering core courses. MDC requests accreditation (ABET) evaluation for program(s). Deadline to submit request for evaluation visit to take place in Fall 2011 is January 31, 2011.	MDC posts: • 2 PT faculty positions • 1 FT Instructional Lab Assistant
February, 2011	MDC prepares self-study for ABET accreditation. Self-study reports for evaluations visit to take place in fall must be received by ABET headquarters no later than July 1.	N/A
May/June, 2011	MDC admits BAS EET students for Fall 2011 and conducts orientation/advisement activities.	N/A
May 2011-2013	MDC annually admits BAS EET students for Fall semester and conducts orientation/advisement activities.	N/A
June, 2011	MDC completes the self-study and submits it to ABET for evaluation.	N/A
July 1, 2011	MDC conducts assessment of BAS EET program and submits annual status report to the State.	MDC completes hiring of: • 2 PT faculty • 1 FT Instructional Lab Assistant
August, 2011	MDC Graduates first BAS EET candidates.	N/A
August 2011	MDC convenes planning committee for ABET accreditation process.	N/A
September – December 2011	ABET Evaluation visit(s) takes place on MDC's campus. ABET team presents factual findings orally on campus. Then, following a 7-day response period for the institution to report errors of fact or observation, the team finalizes and submits its preliminary findings and recommendations (called a "draft statement") to the leadership of the appropriate commission for editing.	N/A
January 2012	MDC obtains ABET accreditation results.	N/A
February - April 2012	MDC receives draft statement from ABET. MDC must respond to draft statement(s) within 30 days.	N/A
August 2012	ABET notifies MDC of its final accreditation actions. MDC obtains ABET accreditation results.	N/A
July 1, 2013	MDC conducts assessment of BAS EET program and submits annual status report to the State.	N/A
March-April 2013	MDC submits the self-study to ABET.	N/A
July 1, 2013-2015	MDC conducts assessment of BAS EET program and submits annual status report to the State.	N/A

C. Analysis of Workforce Needs/Demands for the Baccalaureate Program

As stipulated by the Baccalaureate Proposal Approval guidelines, Miami Dade College collaborated with its local workforce development board, economic development councils, business and industry partners, as well as its current students and graduates, to determine workforce baccalaureate degree needs and demands. The proposed Bachelor of Applied Science with a major in Electronics Engineering Technology degree is uniquely tailored to meet the specific job requirements identified by industry representatives for electronic engineering technologists. Industry representatives defined an individual with a baccalaureate in Electronics Engineering Technology as someone who "*works with* engineers and other technical personnel on the design, development, testing, and troubleshooting of circuits and systems [FRC, 2007]." This individual is involved with the *implementation* of systems and projects, the *testing of installed systems*, and the *project management of system installations*. The work of electronics engineers is of a practical and applied nature. An electrical engineer performs the conceptual, theoretical, and design work relating to electrical systems and components with emphasis on electrical power systems; an electronics engineer manages the *implementation process* as it relates to assembling, installing, and testing various types of electronic systems [Career Onestop, 2008].

Labor Market Demand

Miami Dade College works closely with local employers to provide programs that meet local workforce needs. Its primary objective is to produce a trained workforce to meet the critical demands in the high technology marketplace of Florida's Internet Coast. Graduates of Miami Dade College's engineering technology programs are recruited and employed by local, state, and federal organizations for electronics-related positions. Research conducted by Miami Dade College's Office of Institutional Research (Appendix 2) indicates that there is a strong need for baccalaureate-educated engineers. An analysis of job postings for entry-level and replacement candidates conducted in September, 2007 reflects that 48% of the jobs in engineering-related fields require a bachelor's degree, while 4% that accept an associate's degree require at least seven years of related work experience [Job Postings, 2007]. Additional research findings are summarized in the following sections.

National Trends

As shown in Table 2 below, the Department of Labor Bureau of Labor Statistics has projected that the demand for electronics engineers[6] nationally will increase 10% over the ten year period 2004-2014.

State of Florida Trends

The Department of Labor occupation profile for Electronics Engineers in Florida projects annual growth to be 21%, with 200 new annual job openings over the 10-year period from 2004 – 2014 due to growth and replacement [Career OneStop, 2008]. Currently, this need cannot be completely filled with local candidates since there are no local public university baccalaureate programs in electronics engineering to prepare graduates, i.e., electrical engineering programs have a totally different focus and concentration than electronics engineering technologists. The proposed MDC BAS EET is designed to assist in meeting the region's workforce needs.

[6] DOL does not have a category for electronics engineering technology, per se. Local industry has defined this need as described in the Employer Demand section below.

Table 2: Average Annual Job Openings for Electronics Engineers - National and State Trends

United States	Employment		Percent Change	Job Openings [1]
	2004	2014		
Electronics engineers, except computer	142,900	156,700	+ 10 %	4,190
Florida	**Employment**		**Percent Change**	**Job Openings [1]**
	2004	2014		
Electronics engineers, except computer	4,920	5,950	+ 21 %	200

[1]Job Openings refers to the average annual job openings due to growth and net replacement.
Source: Career OneStop, Department of Labor Bureau of Labor Statistics

Employer Demand

In May 2007, MDC convened a focus group of industry representatives to discuss educational needs as they relate to gaps in local electronics engineering positions (Appendix 2). Participants included representatives from Florida Power and Light (FPL), AT&T, Federal Aviation Administration (FAA), Florida Department of Transportation Miami Toll System, Carnival Cruise Lines, and an independent engineering consultant representing small business interests. To reinforce these employers' inputs, MDC's Engineering Department also conducted a telephone survey among these six employers in July 2007. The survey responses were tabulated by MDC's Office of Institutional Research and are presented in Appendix 2. Collectively these organizations employ over 12,000 employees in Region 23. 83% (n=5) of respondents indicated that they would give hiring preference to candidates possessing a bachelor's degree in Electronics Engineering Technology.

- 100% of respondents indicated that a bachelor's degree was an extremely important criterion for career advancement within their organizations.
- In this same survey, employers who responded projected 0 - 200 employees (mean=57) would potentially enroll in the BAS Electronics program if offered at MDC (Appendix 2).
- They also projected *hiring* needs over the next 3 - 5 years ranging from 8 to 500 (mean = 91) engineers with baccalaureate degrees (Appendix 2).
- Florida Power and Light indicated that potentially 200 employees would be interested in participating in a BAS EET program if offered at Miami Dade College (Appendix 2A), observing that it has not been successful in hiring local BS Engineering graduates who are able to pass FPL's qualification examinations. "*If MDC offers a Bachelor of Applied Science in Electronics it would be a great source for FPL hiring. Currently FPL hires Bachelor engineering candidates primarily from UF. FIU candidates do not pass the FPL nuclear entry test. FPL would be interested in enrolling employees in the BAS at MDC since it would be more economical for FPL."* Miami Dade College has a close partnership with FPL, having recently developed an AS degree in Electrical Power Technology pipeline partnership tailored specifically to FPL's needs and qualification exams. The proposed MDC BAS EET curriculum was developed with direct industry input from FPL and other local employers, and will provide students with the opportunity to acquire the skills and knowledge required by industry for entry-level electronics engineering positions.
- In addition to interest in enrolling incumbent workers in a local baccalaureate engineering program, FPL indicated in the phone survey (Appendix 2A) that it projects a need to hire 500 engineers at the baccalaureate level over the next three to five years due to attrition and expansion of its operations.
- Other local employers who participated in the MDC Employer Survey (Appendix 2) included ATT, FAA, and Carnival Cruise Lines. Survey respondents projected openings for bachelor's level positions ranging from 8 (small companies) up to 500 (large companies), with a mean of 91 positions over the next 3 – 5 years.

Miami Dade College's School of Computer and Engineering Technologies' Engineering Advisory Board, consisting of representatives from industry associations, governmental agencies, and local companies that hire engineers, also recognizes the importance of higher education and has expressed its support for Miami Dade College offering a baccalaureate in electronics engineering technology.

- "On behalf of [MDC's] Engineering Advisory Committee, I want to express full support for the proposed Baccalaureate degree in Electronics Engineering Technology….We represent organizations involved in the development of MDC's proposed degree and are very familiar with the benefits this program will bring to our professional community and the organizations which employ us. We want to commend you on pursuing this initiative."

  Joseph M. Yesbeck, P.E., Managing Principal Jacobs, Carter Burgess and Chair, engineering Advisory Committee of Miami Dade College

Miami Dade College has received of letters of support and endorsement from agencies including the Department of Transportation and Federal Aviation Administration, industry professional associations including South Florida Manufacturers Association, Enterprise Development Corporation, and iCoast, and private corporations including Florida Power and Light, Carnival Cruise Lines, and Motorola, among others. All indicated support and recommended that Miami Dade College design and implement a four-year degree in Electronics Engineering Technology, recognizing the need for such a degree and stating how it would benefit their organizations and the community. Sample comments appear below and Appendix 5 contains full text copies of these letters.

- FAA cited its ongoing partnership with Miami Dade College "to cultivate our future leaders. We have successfully hired many MDC graduates and are looking forward to an expanded workforce pool of engineers" as a result of this program.

  Darrell D. Roberts, Manager, Technical Operations Services
  Federal Aviation Administration

- "Please accept our gratitude and appreciation for implementing a much needed offering in the field of electronics engineering in South Florida."

  Jaime A. Borras, Motorola Senior Fellow, Corporate Vice President
  Motorola, Inc.

- "Your program will aid us greatly by providing a well-prepared pipeline of entry level engineering professionals."

  Rodney M. Miller, Dean, FPL Group University, Director of Learning and Development, Workforce Planning
  FPL Group

- Carnival Cruise Lines requires a continuous pipeline of qualified professionally trained engineering technologists. This degree will improve the availability of local candidates for these positions and decrease our costs by eliminating relocation expenses…. [therefore,] I support MDC's efforts to establish a Baccalaureate of Applied Science in Electronics Engineering Technology."

  John P. Masseria
  Manager, I/T Engineering, Information Systems
  Carnival Cruise Lines

- "Ensuring that we recruit effective Electronics Engineers who are well trained, knowledgeable about effective Electronics Engineering processes and methods, and…committed to our community is absolutely essential and vital….we are delighted to support this new effort…."

  Anobb Hyacinthe, CPM, Miami Toll System Support Manager
  Florida's Turnpike Enterprise

- "…we are aware of the shortage of bachelors prepared workers in Workforce Region 23 and believe this degree to be a positive, proactive step in meeting the needs of local employers."

  Rick Beasley, Executive Director

South Florida Workforce

- "…we appreciate your diligent efforts in addressing this critical shortage area in the manufacturing profession."

  June Wolfe, President
  South Florida Manufacturers Association

- "Miami Dade College has been an essential partner … and has been instrumental in satisfying this community's workforce training needs. Electronics Engineering Technology personnel are vital to the growth of the technology industry in Miami-Dade County and neighboring communities….please accept our full support."

  Jane Teague, Executive Director
  Enterprise Development Corporation

- "…additional degree offerings can only serve to advance the business community as a whole."

  Michael Corbit, Executive Director
  iCoast

- "Our educational systems seek to provide quality education and training to all students and prepare them to effectively enter the engineering profession….I am certain that our students will benefit for years to come from the much-needed, highly specialized degree for Electronics Engineers."

  Alina Puentes, Academic Engineering Director
  Miami-Dade County Public Schools

- "We welcome this latest initiative as another demonstration of the College's mission to provide much needed educational opportunities to the Miami Dade County community. The availability of an affordable 4-year engineering degree should attract more women to participate and enable them to improve their long term career prospects."

  Victoria Usherenko, President
  Sherry Thompson Giordano, Executive Director
  ITWomen

Diversified Workforce

Miami Dade College can significantly contribute to meeting the diversified workforce needs of the community and companies in the service region by recruiting from its diversified student body. Table 3 compares information regarding Miami Dade College's minority enrollment [Miami Dade College, 2007c] and demographics for Miami Dade County [U.S. Census Bureau, 2007]. Miami Dade College graduates more minority students than any other institution of higher education in the nation, including the largest number of Hispanic and African-American students. Consequently, in addition to meeting the needs of the community as a whole, the MDC proposed program will provide employers with a large pool of diverse baccalaureate degree candidates who have traditionally been under-represented in the engineering profession.

Table 3: MDC and Miami-Dade County and EET Demographics

Gender/Ethnicity	Associate in Science Electronics Engineering Technology Enrollment Fall 2006	Miami Dade County Demographics, 2005
African-American	28.1%	20.5%
Hispanic	59.6%	60.6%

Source: (MDC Office of Institutional Research; U.S. Census Bureau, 2007)

Student Support

Both current students and graduates indicate support for and significant interest in the creation of the baccalaureate degree in Electronics Engineering Technology at Miami Dade College. In surveys conducted in July and September 2007 by MDC's Office of Institutional Research (Appendix 4), 83% (n=131) of current MDC associate-level engineering students who responded, indicated that they prefer to remain within Miami-Dade County to study. When asked if they would enroll in the BAS with a major in Electronics Engineering Technology if offered at MDC, 58.2% (n=92) of AA/AS engineering majors answered yes. To determine the interest among Associate in Science electronics engineering majors specifically, a second survey was administered in September 2007 (Appendix 1) and as highlighted in Table 4, when asked if they would be interested in enrolling in a BAS-EET if offered at MDC, 78.1% (n=25) of the AS EET degree students and 58.2% (n=92) of the combined AA/AS engineering majors responded "yes" (Appendix 4). This result indicates that AS degree students, for whom this proposed degree is targeted, have a high level of interest in pursuing a baccalaureate at Miami Dade College.

Table 4: Baccalaureate Degree Interest

Questions	**Yes**	
	AS Only	**AA/AS**
Are you planning to pursue a Baccalaureate degree after completing an Associate degree program	**87%** (n=32)	83.2% (n=158)
If Miami Dade College were to offer a Baccalaureate degree in Electronics Engineering Technology, would you be interested?	**78.1%** (n=25)	58.2% (n=92)

Source: Miami Dade College Office of Institutional Research Student Surveys *(June2007; September 2007)*

Student Survey Comments

The following are comments that students made in response to the survey that was administered by MDC's Office of Institutional Research:

- "It is an excellent idea. Most of the students will embrace that idea for the fact that they come from low income parents. As a matter of fact not all of them receive scholarships when attending universities. And it is not because they are not smart enough to keep a high GPA, but because they still have to work for extra income while attending college. So they do not spend considerable time studying. When they transfer they are obliged to take loan. I believe that the BAS in E.E.T. will help the majority of them. To tell the truth, if MDC … had the BAS I would not transfer to FAU after receiving my A.A. degree."
- "I believe it is a wonderful idea, this is an extraordinary institution. By offering more opportunities more people will be given the chance to have the great experience current students are having."
- "I think it will be a great idea for MDC to offer a BS in EET. It will certainly be a lot cheaper than in any other University."
- "…I have received an AA from MDC and had a great time in MDC. I would like for MDC to have this Bachelor's program in engineering."
- "A BAS will be very helpful for a lot of students doing engineering due to the quality of the professors at MDC."
- "I am pursuing a B.S. Computer Sciences. If this MDC BAS degree is offered, it would be great. I might consider changing my degree."
- "DO IT!!"
- "Would enroll immediately."
- "If it was available 3 years ago, I would have been enrolled in it from the very beginning."

Alumni Survey Comments

These comments were received from alumni who were surveyed:

- "I think that it will help a lot of students especially the international students because Miami Dade offers a very good quality of education at an affordable price."
- "This would be an excellent program for me."
- "It actually would be great to have a BAS available @ MDC! Go for it!"
- "Education is all about having the right opportunities available. A new opportunity like a BAS degree will open the door to many students in the ongoing search of quality and affordable education at MDC."
- "I would be thrilled if you offered this program. I loved attending MDC and would gladly enroll in this program if offered. Please notify me immediately if this program becomes available."
- "Great Idea...It was about time!!!!!!!!"
- "Make sure it includes hands on training and real life application."
- "… as a student that completed an AA in MDC, I would definitely return to MDC to complete a BA degree, not only cause I know more of MDC but because I trust you that the plan that was set forth for my education in the AA degree was not just slap on to make me graduate."
- "I think that Miami Dade provides an excellent education. It would be an excellent idea to offer an education to obtain a bachelor degree for civil engineering, mechanical engineering and many other fields of engineering. At the time that I finished my Art Degree in Miami Dade there were only technical careers for engineering but not to obtain a bachelors. If Miami Dade offers that I am sure that many students would take that chance because Miami Dade offers a good education, offers tutoring, have a flexible schedule and the cost is more reasonable to pay. Please I think if you open a bachelors program for civil, mechanical, electrical engineering you are also providing alternatives to students that were planning to take technical careers to take instead a bachelors degree."
- "I am graduating this semester from a university with a 3.9 GPA. If at the time I was at Miami Dade I would have the opportunity to finish my bachelors at Miami Dade I would have finished it there."

Affordability

As noted in Appendices 1 and 4 and summarized in Table 5, cost and location were cited as the primary ways in which student respondents perceive that MDC excels over other institutions offering engineering degrees. These factors were slightly more important to AS degree seeking students who responded than to the combined AA/AS sampling.

Table 5: Benefits of Miami Dade College (Student Survey Responses)

Question: In what ways does MDC excel over other colleges with similar programs?		
	AS Only	**AA/AS**
Cost	**96.9%** (n=31)	87.6% (n=138)
Location	**78.1%** (n=25)	70.9% (n=112)

Tuition differentials make the BSEE programs less accessible to the MDC student population. Table 6 compares the costs for engineering degrees at MDC, FIU, and UM. The cost for the proposed BAS EET program at MDC will be approximately $11,624.50[7], compared with the BSEE at FIU at a cost of

[7] $86.75 per credit for tuition and fees for 134 credits based on 2008- 2009 tuition rates. Source http://www.mdc.edu/tuition/ accessed July 28, 2008

$16,973.73[8] and UM at a cost of $139,335.51[9]. This program will be more affordable to MDC's lower socioeconomic student population (see Tables 10 and 11) than university programs.

Table 6: Comparison of Tuition Costs

INSTITUTION	COST PER CREDIT HOUR (2008-2009)	TOTAL ESTIMATED TUITION and FEES COST FOR FOUR-YEAR DEGREE
Florida International University	$ 132.36	$ 16,973.73
University of Miami	$ 1,097.13	$ 139,335.51
Miami Dade College	**$ 86.75**	**$ 11,624.50**

Source: Institution websites

Several students who responded to the survey commented on the cost factor:

- "Adding this program to MDC would benefit a lot of students tremendously, not only because of the access but the cost."
- "Although E.E. is not my intended major, I would take advantage of MDC BAS in E.E. because of the very low price on tuition."
- "I think that it will help a lot of students … because Miami Dade offers a very good quality of education at an affordable price."

Potential Enrollments

The proposed BAS EET degree is designed to allow graduates from Associate in Science in Electronics Engineering Technology degrees to pursue a baccalaureate degree; however, it will also accommodate graduates from other AS and AA engineering programs, including computer engineering technology, biomedical engineering technology, and telecommunications technology. Students and graduates of these disciplines are potential candidates for a BAS EET program as well. Table 7 provides the 5-year enrollment history in Miami Dade College's School of Computer and Engineering Technologies.

As noted, the MDC Department of Engineering AS enrollment has averaged between 300 and 400 students annually for the past five years[10] and represent a population of potential candidates for Miami Dade College's proposed BAS degree program in Electronics Engineering Technology. Although the enrollment for A.S. programs in the Miami Dade College School of Computer and Engineering Technology decreased from 2003 – 2007, as did overall college enrollments for the period, it should be noted that as of Fall 2008, MDC is currently experiencing enrollment increases and can be expected to meet the BAS EET enrollment projection of 90 students by 2012-2013.

[8] Tuition and fees for 128 credits. Source http://admissions.fiu.edu/costs.htm and http://www.fiu.edu/orgs/controller/UG%20Calculator.htm accessed July 28, 2008

[9] Estimated cost per credit based on $34,834 per year quoted for tuition and fees for a 4-year, 127 credit program. Source http://www6.miami.edu/ UMH/CDA/UMH_Main/0,1770,29532-1;44908-2;39181-2;61099-3,00.html accessed July 28, 2008

[10].

Table 7: MDC School of Computer and Engineering Technologies Associate in Science Programs 5-Year Fall Enrollment - Potential Candidates for the BAS degree

School of Computer and Engineering Technologies Program	2004	2005	2006	2007	2008
Biomedical Engineering Technology	32	34	29	30	29
Computer Engineering Technology	220	217	177	160	183
Electronics Engineering Technology	123	112	90	93	86
Telecommunication Engineering Technology	34	33	22	17	14
Annual Totals	**409**	**396**	**318**	**300**	312

Source: Miami Dade College Office of Institutional Research *(2007)*

Table 8 represents a conservative estimate of the projected 3-year enrollment in the proposed BAS-EET program based upon current student surveys and employers' interest levels as indicated in the letters of support (Appendices 1 - 5). After the initial three year establishment phase, based upon the number of students currently served by MDC's School of Computer and Engineering Technologies (300+ per year) and the Department of Labor annual growth projections (21%), the enrollment is projected to grow significantly during the next 5 to 10 year period.

Table 8: Projected 4-year student enrollment in MDC's BAS - Electronics Engineering Technology

2009 - 2010	**2010 – 2011**	**2011-2012**	**2012-2013**
24 (10 FTE)	42 (25 FTE)	80 (54 FTE)	90 (61 FTE)

MDC Contact with South Florida State and Private Universities

In compliance with the State Board of Education *Baccalaureate Program Proposal for Community Colleges* guidelines, Dr. Norma Martin Goonen, Provost, Academic and Student Affairs, Miami Dade College, notified local higher education institutions of Miami Dade College's intent to submit baccalaureate program proposals to the State Board in September 2008 (Appendix 17). Florida International University, University of Miami, Barry University and St. Thomas University were provided with a copy of the curriculum guide and a summary of the proposed Bachelor of Applied Science with a major in Electronics Engineering Technology. As of the submission date of this proposal, there has been no response to the correspondence.

D. Alignment with K-20 Goals and Strategic Imperatives

K-20 Goals

The Miami Dade College BAS EET degree proposal aligns with the appropriate Florida Department of Education Goals established by the Legislature in SB 1162 as follows:

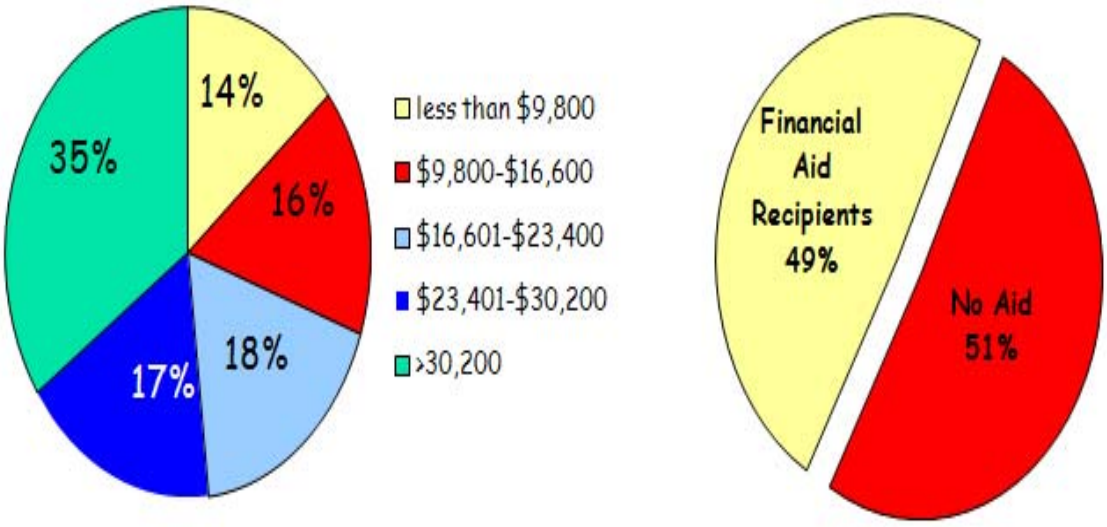
1. Highest Student Achievement
The proposed program encourages high student achievement and performance at all levels and consistently applies academic and training standards as required by the Southern Association of Colleges and Schools Commission on Colleges and ABET. MDC will not terminate any existing Associate in Arts or Associate in Science degree as a result of the BAS EET proposal and the proposed BAS EET degree aligns with the MDC and the AA in pre-engineering and AS in electronics engineering technology degrees.

2. Seamless Articulation and Maximum Access
MDC's proposed BAS EET aligns with FLDOE Goal 2 as follows:

(a) The proposed BAS EET effectively utilizes the education resources of the K-20 system. The educational and training opportunities may begin immediately after high school with a student enrolling in the Associate in Science degree in Electronics Engineering Technology, Biomedical Technology, Computer Engineering Technology or Telecommunication Technology, or an Associate in Arts pre-engineering program, and matriculating to the proposed BAS EET program. Students will receive the full range of articulation and transfer rights guaranteed by the Florida Statewide Course Numbering System (SCNS) and Statewide Articulation agreements. By utilizing flexibility of course offerings and scheduling options, the proposed BAS EET degree streamlines the educational process for non-traditional engineering students by allowing them to continue working full or part-time.

(b) As reflected in the student and alumni survey responses (Appendices 1, 3, and 4), the affordability of higher education is an issue for Miami Dade College students. The US Census Bureau (2007), noted that Miami is the third poorest city in America. As noted in the MDC Student Surveys conducted by Institutional Research, 97% of AS EET degree respondents cite cost as the way in which MDC excels over other institutions (Appendix 1) and 81% of all student respondents (AA/AS) indicated that MDC excelled over other colleges regarding costs (Appendix 4). Table 9, compiled by MDC's Office of Institutional Research, reports that 35% of MDC students are below the poverty level, 57% are low income, and 49% are currently recipients of some type of financial assistance. Eighty-eight (88%) of MDC's students are classified as academically under-prepared and MDC accommodates these students by providing college preparatory courses to prepare them for college-level credit course work and programs. MDC enrolls and graduates large numbers of students (MDC *Graduate Profile 2006-07*) and, consequently, is in a position to meet the challenges of increasing rates of learning and completion at all levels by utilizing proven multiple and varied academic student support services.

Table 9: Percentage of MDC Students below the Poverty Threshold



Source: Fall 2006 Enrolled Student Survey

(c) The proposed BAS EET program combines the theoretical with practical, hands-on, and applied learning designed to provide students with additional job-readiness skills. MDC is in compliance with the State Common Course Prerequisites and the Statewide AS to BS Career Ladder Articulation Agreements and degree transferability.

(d) The cost of tuition at other Region 23 institutions may contribute to low student enrollment and/or graduation from BS EE programs. The majority of MDC students are geographically bound due to transportation and financial issues preventing them from transferring to other regional institutions. As noted in Table 6, the MDC BAS EET proposal provides an affordable option for Florida residents seeking BAS EET preparation.

3. Skilled Workforce and Economic Development

Miami Dade College can meet the diversified workforce needs of the community and agencies in its service region by providing higher education opportunities for many South Florida students. MDC graduates more minority students than any other institution of higher education in the nation [*Miami Dade College Student Profile Data*, 2007d] and has the potential to provide Region 23 employers with a large pool of diverse BAS EET engineers.

The proposed Miami Dade College BAS EET degree will provide the South Florida community with an affordable, efficient, career-ladder approach to baccalaureate education and will enable currently employed individuals to pursue a BAS EET.

4. Quality Efficient Services

The proposed BAS EET degree program will provide high quality and efficient services by utilizing existing Miami Dade College resources and services. Applications for admission and registration services will be processed utilizing Miami Dade College's existing systems within the Offices of the Registrar and

Admissions. A dedicated part-time student services/academic advisor will provide specialized advisement and counseling required for engineering majors. Admission requirements will conform to established MDC policy and Florida statutes and rules.

Strategic Imperatives

In addition to aligning with the Florida Department of Education K-20 Mission and Goal statements, the MDC Bachelor of Applied Science with a major in Electronics Engineering Technology degree proposal is designed to align with the Strategic Plan Imperatives as follows:

1. Set, Align, and Apply Academic Curricular and Testing Standards
Students will be required to meet all baccalaureate admission standards, including foreign language, College-Level Academic Skills Test (CLAST) requirements, and minimum grade point averages. In addition, MDC's BAS EET proposed degree program will meet all standards to attain accreditation from ABET.

The program will meet all requirements as stipulated by the Statewide Articulation and Common Pre-Requisite Manuals and will align course requirements with professional needs and standards. MDC will conduct program reviews as stipulated by MDC Policies and accreditation requirements.

2. Improve Student Rates of Learning
The proposed BAS EET degree will address this imperative by developing and implementing plans to annually increase:

- The percentage of associate degree graduates who enroll in the BAS EET program.
- The retention rates of BAS EET students.
- The completion rates of the BAS EET students.

3. Improve the Quality of Instructional Leadership
The intent of the proposed BAS EET degree proposal is to provide students with an affordable, efficient, seamless, workforce-driven baccalaureate engineering degree. The proposed BAS EET degree will include the opportunity for students to obtain knowledge and skills not only in electronics technology but also to obtain management skills through project management training and assignments, enabling graduates to take leadership positions in industry. The proposed BAS EET degree program is designed to provide graduates with a combination of classroom knowledge and practical applied strategies that may consequently impact the quality of leadership within local businesses and industry.

4. Increase the Quantity and Improve the Quality of Education Options
The proposed BAS EET degree increases the educational options and workforce opportunities for prospective students within Region 23 by providing the opportunity for a high quality, seamless, workforce-driven degree that adds to the current engineering career ladder options at MDC. It is designed to provide the graduate with the skills and abilities to handle the increasingly complex skills, abilities, responsibilities, and critical thinking required of professionals in a global community.

5. Align Workforce Education Programs with Skill Requirements of the New Economy
The proposed BAS EET curriculum incorporates and aligns with the training and skill requirements requested by employers such as FPL, FAA, and ATT (Appendix 6), who participated in the industry focus group conducted in May 2007. To ensure that educational needs are met, the MDC School of Computer and Engineering Technology administrators meet periodically with advisory committees and faculty to review the current programs, local workforce needs, and to evaluate and revise curriculum.

6. Align Financial Resources with Performance
MDC will provide advisory committees with information regarding accountability measures and processes. Recruitment and retention of students will be monitored to ensure that student learning and educational needs are met. The annual budget process and the five-year program review process as well as SACS

and ABET accreditation reviews, and the Florida State Board of Education annual report will ensure that resources address program performance.

7. Coordinate Efforts to Improve Higher Student Learning
MDC will continue to utilize its existing articulation and access plans and will facilitate new agreements as appropriate. Academic student advising will be coordinated to ensure that students progress toward baccalaureate degree completion in a timely manner.

E. Academic Content and Curriculum

Program Title	*Bachelor of Applied Science with a major in Electronics Engineering Technology*
C.I.P. Code	**15.0303**
Department	School of Computer and Engineering Technologies Department of Engineering
General Education Requirements	36 credit hours
Total Credits	134
Common Course Pre-requisites	MACX253 Or MACX311 AND MACX254 Or MACX312 AND PHYX053 Or PHYX048/X048L
State-wide Articulation: Associate in Science in Electrical Engineering Technology to a Baccalaureate in Electronic Engineering Technology	In compliance

Program Description:

The Bachelor of Applied Science with a major in Electronics Engineering Technology (BAS-EET) is designed to provide students who have completed an Associate in Science degree in Electronics Engineering Technology, Computer Engineering Technology, Telecommunications Engineering Technology, or Biomedical Engineering Technology, an opportunity to seamlessly attain a bachelor's degree without losing transfer credits. It also allows Associate in Arts engineering graduates, who favor applied concepts in engineering, to pursue an alternative baccalaureate to the Bachelor of Science, which places more focus on theory. Students enrolled in the BAS will acquire hands-on experiences that reflect industry practice, and develop much needed industry skills such as project management, teamwork, and technical writing. The Bachelor of Applied Science with a major in Electronics Engineering Technology prepares students for employment in such occupations as Electronics Engineer, Test Engineer, Project Engineer, Electronics Manufacturing Engineer, Electronics Systems Engineer, Electronics Hardware Engineer, Technical Support Engineer, Quality Control Engineer, Reliability Engineer, Field Engineer, Processing Engineer, or Sales Engineer.

The proposed Bachelor of Applied Science with a major in Electronics Engineering Technology degree will be housed within the School of Computer and Engineering Technologies at Miami Dade College. The proposed six-digit Classification of Instructional Programs (CIP) code is 15.0303. Accordingly, the program was designed to incorporate the Career Ladder Articulation [FLDOE, 2005] and Common Prerequisites for this CIP code as designated by the State of Florida Department of Education [FLDOE, 2007]. It is a 134 credit hour program incorporating lower and upper division coursework which includes the required 36 credits of general education, foundation courses and technical core courses as shown in the Curriculum Guide (Table 10).

Table 10: Curriculum Guide

Bachelor of Applied Science with a major in Electronics Engineering Technology

C.I.P. 15.0303

Total credits required for the degree is 134

This program is designed to prepare students for entry level engineering positions such as Electronics Engineers, Test Engineers, Project Engineers, Electronics Manufacturing Engineers, Electronics Systems Engineers, Electronics Hardware Engineers, Technical Support Engineers, Quality Control Engineers, Reliability Engineers, Field Engineers, Processing Engineers, and Sales Engineers.

* Highlighted area indicates common prerequisites as stipulated by the AS to BS Statewide Articulation Manual.

Course	Course Title	Credits	Pre-/Co-Requisites
GENERAL EDUCATION: 36 CREDITS REQUIRED			
Communications – 6 Credits Required			
ENC 1101	English Composition 1	3	
ENC 1102	English Composition 2	3	Pre-Req ENC 1101
Oral Communication – 3 Credits Required			
SPC 1026	Fundamentals of Speech Communications (recommended)	3	
Humanities – 6 Credits Required			
PHI 2010	Introduction to Philosophy (recommended)	3	
PHI 2604	Critical Thinking/Ethics (recommended)	3	Pre-Req ENC 1102
Behavioral and Social Science – 6 Credits Required			
CLP 1006	Psychology of Personal Effectiveness (recommended)	3	
ECO 2013	Principles of Economics (Macro) (recommended)	3	
Science – 6 Credits Required			
* Courses exclude labs			
PHY 2053	Physics without Calculus	3	Prereq MAC 1114 or MAC 1147; Co-req PHY2053L
PHY 2054	Physics w/o Calculus 2	3	PHY2053; Co-req PHY2054L
Mathematics – 6 Credits Required			
* Courses exclude labs			
MAC 1105	College Algebra	3	Pre-req MAT1033
MAC 2311	Calculus and Analytical Geometry 1 and Trigonometry	5	Pre-req MAC1147
Note: extra 2 credits assigned to General Education Elective block			
General Education Elective – 3 Credits Required			
See Advisor for Approved Selections			
PHY2053L	Physics w Calculus Lab	1	Co-req PHY2053

COMMON COURSE PREREQUISITES

MAC2311 Calculus and Analytical Geometry 2	GE	Pre-req MAC 1114 and MAC 1140 or MAC1147
MAC2312 Calculus and Analytical Geometry 2	4	Pre-req MAC2311
PHY2053/2053L Physics w/o Calculus 2	GE	Pre-req MAC1114 or MAC1140; Co-req PHY2053L

LOWER DIVISION Technology Core– 38 Credits Required

CET2114C	Digital Computer Circuit Analysis 1	4	Pre/Co-req MAC1105
CET 2123C	Microprocessors	4	Pre-Req CET2114C, MAC1147
EET 1015C	Direct Current Circuits	4	Pre/Co-req MAC1105
EET 1025C	Alternating Current Circuits	4	Pre-req EET1015C; co-req MAC1147
EET 1141C	Electronics	4	Pre-Req EET1025C
EET 2101C	Electronics	4	Pre-Req EET1141C
EET 2305C	Electronic Communications 1 - Analog	4	Co-req EET2101C
CGS2423	C for Engineers	4	Pre-Req CGS1060
	OR		
COP1220	Introduction to C++ Programming	4	Pre-Req CGS1060
MAC1140	Pre-Calculus Algebra	3	Pre-Req MAC 1105
MAC1114	Trigonometry	3	Pre-Req MAC1105 or MAC1140

LOWER DIVISION TECHNICAL ELECTIVES – 8 CREDITS REQUIRED

CET 2142C	Advanced Digital Circuits (recommended)	4	CET2114C
EET 2351C	Electronic Communications 2 - Digital (recommended)	4	Pre-req EET2305C

MAJOR CORE REQUIREMENTS – 48 Credits Required

CET 3126C	Advanced Microprocessors	4	Pre-req CET2123C
CET 4190C	Applied Digital Signal Processing	4	Pre-req CET3126C, EET4136
EET 3158C	Linear Integrated Circuits and Devices	4	Pre-req EET2101
EET 3XXX	Power Systems	3	Pre-req EET1025C
EET 3716C	Advanced System Analysis	4	Pre-req EET2101C, Co-req MAC2312
EET 4XXXC	Signals and Systems	4	Pre-req MAC2311
EET 4732C	Feedback Control Systems	4	Pre-req EET3158C
EET 4165C	Senior Design 1	3	Department approval required
EET 4166C	Senior Design 2	3	Department approval required
EST 3543C	Programmable Logic Controllers	4	CET2123C
ETI 3671	Technical Economic Analysis	3	MAC1105
ETI 3704	Safety Issues in Electronics Engineering Technology	3	
ETI 4480C	Applied Robotics	4	Pre-req CET3126C
PHY2054L	Physics w/o Calculus Lab	1	Co-req PHY2054

Admission Requirements

Students must have an earned AA or AS degree from a regionally accredited institution or completed a minimum of 60 credit hours with a cumulative grade point average of 2.0 and a minimum 2.5 grade point average in all lower division engineering technology core courses.

Students must have a minimum of 28 lower division technology courses and must satisfy all course prerequisite requirements before being admitted into upper division level engineering technology core courses.

Students must complete MAC1105 and ENC1101 prior to being admitted into the senior level institution. *The remaining thirteen (13) hours of general education, including the common course prerequisites are to be taken at the university level and include PHYX049/ X049L or PHY X054C(4), MAC X311or equivalent; and other general education courses as determined by institutional requirements; and four (4) hours in MACX312 or equivalent*

Students must submit a completed Miami Dade College Admissions Application.

Additional Information:
Students entering with an AS or AAS degree may need additional General Education credits to meet the 36 General Education credits required for the baccalaureate degree. Students entering with an AA degree may need additional electives to provide appropriate background for the baccalaureate program.

Graduation Requirements

- a minimum of 134 semester hours in specified coursework
- a minimum cumulative grade point average of 2.0
- a minimum 2.5 grade point average in the engineering major
- a minimum of 30 semester hours of 3000-4000 level course work at the senior level institution
- successful completion of a minimum of 48 semester hours of engineering technology core coursework at the senior institution level
- satisfactory completion the general education 36 credit hour requirements
- satisfactory completion of the Gordon Rule requirements
- satisfactory completion of the CLAST or waiver
- Computer Competency: By the 16th earned college level credit (excluding EAP and college preparatory courses), a student must take the Computer Competency Test and pass
- By the 31st earned college level credit (excluding EAP and college preparatory courses), a student must pass CGS 1060, an equivalent continuing education or vocational credit course or retest with a passing score on the Computer Competency Test.
- Foreign Language: Students admitted to the baccalaureate degree program without meeting the foreign language admission requirement of at least 2 courses (6 - 8 credit hours) of sequential foreign language at the secondary level or the equivalent of such instruction at the postsecondary level must earn such credits prior to graduation.

Students should check their individualized Degree Audit Report to determine the specific graduation policies in effect for their program of study for the year and term they entered Miami Dade. This outline includes current graduation requirements.

The final responsibility for meeting graduation requirements rests with the student.

Curriculum Design

The proposed curriculum is designed to create highly trained, well educated, and employable electronics engineering technology professionals. The curriculum was developed utilizing extensive input from workforce experts, electronics engineering faculty, and college administrators to ensure that students acquire the latest skills and content. An industry focus group was conducted in May 2007 during which a job task analysis was performed and key skill sets, knowledge, and equipment were identified (Appendix 6). Consideration has been given to ensure that the proposed program incorporates a clear scope and sequence of core coursework thereby allowing for a seamless transition. Descriptions for senior level institution technology core courses are available in Appendix 9. The Bachelor of Applied Science with a major in Electronics Engineering Technology degree has been designed with a high degree of flexibility allowing students to enter at various points, including transfer entry or upon completion of an AS, AAS, or AA degree from a regionally accredited institution. A four-year advising plan was developed to provide students an example of the proposed plan of study (Appendix 10).

General Education and Common Prerequisite Courses

The proposed Miami Dade College BAS with a major in Electronics Engineering Technology degree program conforms to all state statutes and rules, including the completion of 36 credits of general education and CLAST, addresses the SACS Accreditation Criteria (3.3.1 and 3.4.1) for student learning assessments, the Florida general education standards (Florida Rule 6A.10.030), and Common Course Prerequisite requirements. The proposed degree incorporates the AS and AA lower division coursework as the foundation of the baccalaureate program and MDC is in compliance with State of Florida Articulation Agreements and Common Course Pre-Requisite standards regarding transferability. Transcripts from students transferring from out-of-state institutions will be evaluated on an individual basis per established MDC policy. All State of Florida Articulation Agreements will be preserved and State certification guidelines met.

Senior Level Institution Core Courses

The senior level institution core courses (48 semester hours) are structured in a logical, sequential manner with course content increasing in difficulty and complexity. The senior level institution core is designed to provide graduates with the technical and managerial skills necessary to enter careers in design, application, installation, manufacturing, operation and/or maintenance of electrical/electronic(s) systems. In addition, it is designed to assist students in applying electrical/electronic(s) engineering theories and concepts, as well as knowledge and research-based practices in all engineering environments. Graduates will be well prepared for development and implementation of electrical/electronic(s) systems. Graduates are expected to use creative leadership and their advanced knowledge and skills to improve the state of the art in electrical/electronics engineering, as well as promote the highest standards and ethics as applied to the electrical/electronic(s) engineering technology field.

The senior level institution core electrical/electronic(s) engineering courses incorporate the following:

A. Critical thinking as applied towards solving electrical/electronic(s) engineering problems
B. Globalization of the engineering profession (including the concepts of culture, cultural competence, community, the impact of engineering and international engineering goals, issues, and concepts)
C. Knowledge and research-based practice (including basic knowledge and concepts of engineering research steps and processes in quantitative and qualitative research, and how to critique research to determine the usefulness and appropriate application of research findings to improve engineering practice)
D. Professionalism (including behaviors, legal issues, ethics, values, and accountability and their application in a practical engineering environment).

Appendix 8 provides specific information regarding the integration and assessment of Miami Dade College Learning Outcomes skills and learning objectives throughout the BAS-EET curriculum. The upper division coursework addresses eight of the College's ten learning outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Demonstrate knowledge of ethical thinking and its application to issues in society
- Use computer and emerging technologies effectively
- Demonstrate an appreciation for aesthetics and creative activities
- Describe how natural systems function and recognize the impact of humans on the environment.

Assessment of the outcomes will be accomplished by student class presentations, research papers as well as project proposals, designs, implementations, testing, and demonstrations that will be administered throughout the various senior level institution courses. In addition, project management and engineering ethics are discussed within each course as appropriate for the various areas of electrical/electronics engineering technology. The senior level institution core courses are designed to build upon the general education, common prerequisite, and foundation EET courses as well as on the engineers' expertise, prior experience and program electives.

Standards of the field

MDC will be seeking accreditation from ABET, Inc. (Accreditation Board for Engineering and Technology), the recognized accrediting agency for engineering programs. The proposed BAS-EET curriculum has been developed incorporating ABET requirements regarding mathematics and science content, and senior level institution credit and program requirements [ABET, 2007].

Justification for 134 credit hours

The program adheres to two pre-determined curriculum models for baccalaureate degrees in electronics engineering technology: the Florida Department of Education (FLDOE) Office of K-20 Articulation, Division of Strategic Initiatives*, Statewide Post-Secondary Articulation Manual, Career Ladder Agreement* [FLDOE, 2005] and the program accreditation requirements of ABET the Accreditation Board for Engineering and Technology, the professional, national accrediting organization [ABET, 2007]. The Career Ladder Agreement stipulates the number of credits required for each curriculum block within the degree program, not to exceed 134 credits (Appendix 7). In order to accommodate the required number of credits in mathematics, physics, general education and both the lower and senior level institution level engineering technology core, the program is 134 credits.

- The *Statewide Post-Secondary Articulation Manual, Career Ladder Agreement* specifies the following mandated requirements [p. 10]:

  a. The articulated Associate in Science in Electrical Engineering Technology shall include:
  i. Twenty-two (22) credit hours of general education including the following designated courses or an approved general education course in the designated discipline: MAC X105, PHY X048/X048L or PHY X053C(4), six (6) hours in Communication to meet the Gordon Rule requirement, six (6) hours in Social Science, three (3) hours in Humanities; and
  ii. Thirty-eight (38) hours in technical core courses; and
  iii. Eight (8) hours in technical electives courses.
  b. The baccalaureate in Electronic Engineering Technology shall include:
  i. The remaining thirteen (13) hours of general education to be taken at the university level and including PHY X049/X049L or PHY X054C(4), MAC X311 or equivalent; and other general education courses as determined by institutional requirements; and
  ii. Four (4) hours in MAC X312 or equivalent; and
  iii. Forty-eight (48) hours of engineering technology core courses.
  c. The total hours for the AS to BS articulated degree shall be no more than 134 credit hours.

- The State of Florida Department of Education Career Ladder Agreement (FLDOE, 2005) cites the following as a justification for the 134 credit hour BSEET degree:

  3) The Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET) establishes criteria for Engineering Technology programs. Three AS and two BS programs are currently accredited by this body. One AS program is seeking accreditation, and others have future plans for accreditation. In order for the universities and community colleges to maintain their TAC/ABET accreditation, and not jeopardize their specialized accreditation, the program length specified must meet the hours as listed [p. 10].

- ABET states in its accreditation guidelines that "*Baccalaureate programs must consist of a **minimum** of 124 semester hours or 186 quarter hours of credit* [p.2]."

Flexibility

For the past 45 years, Miami Dade College has adhered to its fundamental mission which is "*to provide accessible, affordable, high-quality education by keeping the learner's needs at the center of decision-making and working in partnership with its dynamic multicultural community.*" To that end, Miami Dade College is mindful of its students' educational needs, as well as challenging work-related schedules; as such, the College offers training and educational programs from 7:00 a.m.-11:00 p.m. and on weekends, to ensure accessibility to programs fundamentally designed for a largely working student population.

Additionally, the College's history of varied delivery systems will be incorporated into the proposed BAS degree offering. Students will be able to enroll in general education courses at any of the College's seven main campuses. Many engineering technology core courses will be offered at strategically located campuses throughout Miami Dade county, i.e., North Campus (north Dade), Kendall Campus (south Miami Dade), and Wolfson Campus (central Miami Dade) and, where appropriate to the content, online.

Admission Requirements

- Students must have an earned AA or AS degree from a regionally accredited institution or must have completed a minimum of 60 credit hours with a cumulative grade point average of 2.0 and a minimum grade point average of 2.5 in all lower division engineering technology core courses.
- Students must have a minimum of 28 lower division technology courses and must satisfy all course prerequisite requirements before being admitted into senior level institution level engineering technology core courses.
- Students must complete MAC1105 and ENC1101 prior to being admitted into the senior level institution. The remaining thirteen (13) hours of general education, including the common course prerequisites are to be taken at the university level and include PHYX049/ X049L or PHY X054C(4), MAC X311 or equivalent; and other general education courses as determined by institutional requirements; and four (4) hours in MAC X312 or equivalent
- Students must submit a completed Miami Dade College Admissions Application.

Graduation Requirements

Graduation requirements for the BAS Electronics Engineering Technology degree will include

- a minimum of 134 semester hours in specified coursework (refer to the Curriculum Guide in Table 10)
- a minimum cumulative grade point average of 2.0
- a minimum grade point average of 2.5 in the engineering major
- a minimum of 30 semester hours of 3000-4000 level course work at the senior level institution
- successful completion of a minimum of 48 semester hours of engineering technology core coursework at the senior institution level
- satisfactory completion the general education 36 credit hour requirements
- satisfactory completion of the Gordon Rule requirements
- satisfactory completion of the CLAST or waiver
- Computer Competency: By the 16th earned college level credit (excluding EAP and college preparatory courses), a student must take the Computer Competency Test and pass
  Or
  By the 31st earned college level credit (excluding EAP and college preparatory courses), a student must pass CGS 1060, an equivalent continuing education or vocational credit course or retest with a passing score on the Computer Competency Test.
- Foreign Language: Students admitted to the baccalaureate degree program without meeting the foreign language admission requirement of at least 2 courses (6 - 8 credit hours) of sequential foreign language at the secondary level or the equivalent of such instruction at the postsecondary level must earn such credits prior to graduation.

Terminal Program Outcomes

Upon completion of the proposed BAS EET degree, graduates will be expected to demonstrate the following:

1. the applications of circuit analysis and design, computer programming and associated software, analog and digital electronics, and microcomputers to the building, testing, operation, and maintenance of electrical/electronic(s) systems;

2. the applications of physics or chemistry to electrical/electronic(s) circuits in a rigorous mathematical environment at or above the level of algebra and trigonometry;
3. the ability to analyze, design, and implement control systems, instrumentation systems, communications systems, computer systems, and power systems;
4. the ability to apply project management techniques to electrical/electronic(s) systems;
5. the ability to utilize statistics/probability, transform methods, discrete mathematics, or applied differential equations in support of electrical/electronic(s) systems [see ABET, p.16]

Regarding specific learning outcomes, Florida Statute 1001.03 [13] requires a "cyclic review of postsecondary academic programs" to "document how individual academic programs are achieving stated student learning and program objectives". SACS guidelines place responsibility on an institution for reviewing its programs:

- 3.3.1 The institution identifies expected outcomes for its educational programs and its administrative and educational support services; assesses whether it achieves these outcomes; and provides evidence of improvement based on analysis or those results.
- 3.4.1 The institution demonstrates that each educational program for which academic credit is awarded (a) is approved by the faculty and administration, and (b) establishes and evaluates program and learning outcomes.
- 3.4.12 The institution places primary responsibility for the content, quality, and effectiveness of its curriculum with its faculty.
- 3.5.1 The institution identifies college-level competencies within the general education core and provides evidence that graduates have attained those competencies.

To meet Florida Statute 1001.03, the MDC School of Computing and Engineering Technology has developed a variety of methods to assess terminal program objectives, including written and oral assignments, as well as full electrical/electronic(s) projects developed for the design, application, installation, manufacturing, operation and/or maintenance of electrical/electronic(s) systems. Project proposals and implementations, including engagement in small group-work in the design, development and implementation of practical electrical/electronic systems will be required of program participants. The MDC program review process described in Appendix 12 meets the guidelines outlined in MDC's mission, vision, and values, Florida State Statutes, SACS guidelines and criteria, and ABET accreditation standards.

F. Assessment of Current and Anticipated Resources to Deliver the Program

For each category listed below, information regarding current available resources and required resources for the proposed BAS-EET degree is provided. Table 11 provides a summary chart.

Library Volumes: The MDC Library has an estimated book collection of approximately 1,000 items in the general area of engineering. About a quarter of them deal with electrical engineering and electronics. There are a few e-books and media resources, but print books account for the overwhelming majority of the total number of holdings. About 10% of the estimated 1,000 items were published from 2000 to the present, and the rest were published in the previous decades. It is projected that MDC will acquire a minimum of 1800 new book titles and 200 new non-print titles in the form of e-books, CDs, DVDs, etc.

Library Serials: The Library is currently subscribed to the print version of *Technology Review*, a general technology magazine published bimonthly by the Massachusetts Institute of Technology (MIT), and to the print version of *Chemical & Engineering News*, a weekly magazine published by the American Chemical Society.

The Library also offers faculty and student access to *Applied Science & Technology Full Text*, an H.W. Wilson online database with coverage of over 300 periodicals, including peer-reviewed journals. This database provides indexing, abstracting, and "select" full-text (full-text is only available for some of the publications). The subject areas covered by *Applied Science & Technology* are, among others,

automotive engineering, chemical engineering, civil engineering, electrical and electronic engineering, engineering and biomedical materials, environmental engineering, industrial engineering, mechanical engineering, mining engineering, and nuclear engineering.

It is anticipated that additional professional journals on electrical and electronic engineering, computer engineering technology, and power technology-related subjects, such as those published by the IEEE and other professional associations, will be acquired either in hard copy or as online e-subscriptions to provide students with timely access to the most up to date research and practices in the field. Librarians, faculty, and administrators will work together to develop and implement a collection development plan based on the specific curriculum of the proposed four-year BAS EET program. Preliminary recommendations are for a minimum of 50 new print titles in the category and at least one additional discipline database.

Space (Classroom, teaching laboratory, office, and other space that is necessary for the proposed program)**:**

General Facilities: MDC's Department of Engineering has a total of eleven classroom/labs across Miami Dade College's three major campuses, North, Kendall, and Wolfson. There are five dedicated engineering classrooms/labs at the North Campus, four at Kendall and two at Wolfson. In addition to utilizing existing classroom and lab space, the program will require the addition of three new electronics laboratories to support 24 students in each lab. The labs will consist of the following equipment: oscilloscopes, multimeters, function generators, programmable logic controllers, computers and simulation software, and other equipment as relevant to the curriculum.

Library Space: To house the increased book collection, an additional 16 book ranges, with 30 shelves per unit, will be needed. The multi-media items and the periodicals electronic and print resources will fit in the current facilities.

Equipment: Due to the technical and operational components of the BAS program, additional instructional equipment will be required. Such items will include oscilloscopes, multimeters, function generators, programmable logic controllers, computers, and simulation software. The computer laboratory will be utilized to support academic courses requiring computer technology. As the program expands, classes will be offered at other MDC campuses. Each Miami Dade College campus provides students access to a centralized computer courtyard with free Internet access, which can be utilized by students for class assignments and research projects.

Other key resources, as applicable

Faculty: Miami Dade College policy and SACS criteria require that all faculty teaching undergraduate courses that transfer and/or are part of a baccalaureate program hold at least a master's degree and have a minimum of 18 graduate semester hours in the teaching discipline. The proposed BAS degree program will strictly adhere to this policy and Miami Dade College has a well-credentialed core of faculty within its School of Computer and Engineering Technologies for the proposed BAS degree program. Seventy-five percent of the core faculties hold master's degrees or higher and it is planned that more than 25% of the discipline course hours will be taught by doctoral prepared faculty in compliance with SACS credential requirements (Appendix 13).

Miami Dade College requires a formal screening process for faculty positions. Screening committees composed of faculty and administrators are charged with specifying the discipline and teaching criteria, interviewing, and recommending candidates. In accordance with SACS guidelines, faculty applicants must present academic transcripts and other documentation verifying the required academic preparation and credentials in order to be considered for appointment. The Dean of Academic Affairs and Human Resources review and approve all documents.

Faculty members at Miami Dade College are expected to maintain professional development as part of their contractual obligation, requirements for continuing contract, and faculty advancement in

academic rank. The professional development of faculty at the College is an ongoing and dynamic activity designed to emphasize and support faculty as professionals and scholars, ensure teaching excellence, and enhance the learning process. Professional development activities are supported through graduate tuition reimbursement and tuition reduction agreements with local universities. Furthermore, the College Training and Development Program offers faculty a variety of workshops, seminars, and symposia throughout the year. School of Computer and Engineering Technologies faculty remain current and active in their discipline through their participation in a variety of professional development conferences, meetings, state and national committees and task forces, and workshops.

Additional Faculty/Staffing Needs:

- It is projected that two additional part time faculty will be required during the first academic year of course delivery, 2009-2010.
- As enrollments and course offerings increase in 2010-11, the department will replace the part-time faculty with one full time doctoral-prepared engineering faculty.
- By 2011-2012, two additional part time faculty will be required.
- Due to the laboratory-intensive curriculum, additional instructional lab assistants will be required. Initially, the equivalent of one part-time lab assistant will be added and as enrollment increases, that position will be upgraded to a full time lab assistant.
- It will be necessary to hire a part-time librarian with subject expertise in the Engineering area to work with the Electronics Engineering Technology faculty and administration to select the new library and multi-media materials, and to process and catalog the book collection.
- A full-time program director with engineering credentials will be required to manage the program.
- One part-time support staff will be required to provide administrative and clerical support to the students and program
- Due to the highly specialized, technical nature of the program, the BAS EET program will require a part-time student advisor to provide accurate advisement and assist with program recruitment.

Table 11: Summary of Current and Anticipated Resources to Deliver the Program

	CURRENT RESOURCES	ANTICIPATED ADDITIONAL RESOURCES REQUIRED
LIBRARY VOLUMES	1000, including general engineering, electrical and electronics engineering	1800 total new book titles 200 new non-print books (e-books, CDs, etc.)
LIBRARY SERIALS	2 print journals 300 periodicals accessible via online database	Subscriptions to IEEE journals 50 new print titles 1 database
SPACE	General Facilities: • North Campus Building 3 = 5 engineering labs/classrooms • Kendall Campus Building 6000 = 4 engineering labs/classrooms • Wolfson Building 7000 = 2 engineering labs/classrooms	General Facilities: • Three additional laboratories to support 24 students each, campus locations TBD

	Library Space: • Multi-Media Stations, Periodicals, and Electronic & Print Resources fit in current facility	Library Space: • Additional 16 Book Ranges, with 30 shelves per unit
EQUIPMENT	Two engineering labs for the AS programs are installed with the following equipment: • oscilloscopes • multimeters • function generators	Additional Instructional Equipment: • programmable logic controller (PLC) development boards • software NI ELVIS circuit and microprocessor bundles • state-of-the-art computers for circuit and system testing and analysis electronics simulation, • circuit analysis and simulation software • robotics laboratory equipment, and • Blackfin EZ-KIT system prototype development kits
PERSONNEL	Faculty: • Full-Time Core = 4 • Adjunct = 10-15	Faculty: • Full-Time Core = 1 • Part-Time Core = 2
	Other: • F/T Program Leader = 1 • F/T Instructional/Lab Assistant = 1 • Department Secretary = 1 • P/T Student Assistant = 1P/T Student Advisor = 1 •	Other: • F/T Program Manager = 1 • F/T Lab Assistant = 1 • P/T Program Support Staff = 1 • P/T Program Academic Advisor = 1 • P/T Library Support = 1
ACCREDITATION	SACS Level 2 Institution	• ABET

G. Proposed Enrollment, Performance, and Budget Plans

The attached *Enrollment, Performance and Budget Plan* (Appendix 14) provides a four-year overview of projected costs for the BAS degree program implementation. Cost projections include a 3% cost of living adjustment for years FY2009-2010 through FY2012-2013, where applicable.

Planned Student Enrollment

Projected program enrollment for the 2009-2010 Fiscal Year (FY) is 24 students (10 FTE) and is expected to grow steadily, reaching 90 students (61 FTE) by FY 2012-2013 (Table 12). Senior level institution student credit hours generated are projected at 288 in the 2009--2010 period, and are expected to increase to 1823 credits by the 2012-2013 academic year. Projection assumptions are based on an approximate 25% annual attrition, and a 40% graduation rate beginning in the third year of the program, FY2011-2012. These percentages are based on college-wide statistics reported by MDC's Office of Institutional Research.

Table 12: Proposed Enrollment for BAS EET

	2009-2010		2010- 2011			2011 – 2012			2012 - 2013		
	2009-2 10-Jan	2009-3 10-May	2010-1 10-Aug	2010-2 11-Jan	2010-3 11-May	2011-1 11-Aug	2011-2 12-Jan	2011-3 12-May	2012-1 12-Aug	2012-2 13-Jan	2012-3 13-May
New	24		24			24	24		24	24	
Returning		24	18	42	42	32	56	80	66	66	90
Total			42			56	80		90	90	
Graduated								15			30

Planned Performance

Based upon student enrollment projections, it is anticipated that the program will graduate 15 students beginning in the third year of enrolled program operations, FY 2011-2012. It is anticipated that there will be a minimum of 80% up to 100% placement rate for each fiscal year, with average beginning salaries of $58, 000 for FY 2011-2013 graduates.

Actual, Estimated and Projected Program Expenditures (See Appendix 14)

- Instructional

  Regarding projected expenditures, one new full-time faculty will be needed and two additional part time (adjunct) faculty will be required to supplement the existing teaching personnel over the first three-year start-up period. All full time and part time faculty will meet or exceed the instructional requisite classification for SACS baccalaureate degree certification. It is anticipated that two part-time faculty will supplement existing department faculty during the first year of program instruction, 2009-2010. An additional full time, doctoral-prepared faculty will be required to support growing enrollment beginning 2010-2011. No part-time faculty will be required in 2010-2011 with the addition of the new full time faculty member. By 2011-2012, however, due to growing enrollments, two additional part-time faculty will be required to deliver the anticipated number of courses.

  Full-time faculty salaries and fringe benefits are estimated at $73,233 in FY 2010-2011 increasing to $79,201 in FY 2012-2013. Part-time faculty salaries and fringes are projected to be $10,000 in 2009-2010, $0 (i.e., Part-time faculty will be replaced by Full-time faculty in 2010-2011), $10,000 in FY 2011-2012, and $12,000 in FY 2012-2013, based on an anticipated rate increase.

  Instructional lab assistants will be required to support student enrollment in various lab-related courses. The program will start with part-time instructional laboratory support increasing to one full time instructional laboratory assistant by 2011-2012. Projected salaries are $11,520 in FY 2009-2010, $23,040 in FY 2010-2011 for part time lab assistants, $28,000 and $30,000 for a full time lab assistant in FY 2011-2012 and FY 2012-2013 respectively.

- Operating Expenses

  Miami Dade College anticipates the following budgetary requirements for academic administration operating expenses. Line item details appear in Appendix 14, *Enrollment, Performance, and Budget Plan*.

- One full time program manager and one administrative support staff will be needed to manage, coordinate, and assist in the administration of the degree program offering. The program manager's salary, including benefits and 3% annual increases, will be $39,891 in FY2009-2010 (one half calendar year beginning July 2009), $82,175 in 2010-2011, $84,640 in FY 2011-2012, and $87,180 in FY 2012-2013. Salary for the administrative support staff will be $16,952 in FY2009-2010 increasing to $19,680 in FY 2012-2013.
- Standard office supplies and materials will average approximately $7,000 annually.
- A travel budget of $4000 - $6000 annually will be established to provide faculty and staff the opportunity to attend professional development conferences and training to enable them to remain current in their discipline.
- Office communication technology will be required to support the daily operations of the program, estimated at $45,000 for 2009-2010 and decreasing to $4,000 in FY 2012-2013.
- A part-time librarian, who will provide library and resource center information to students, will be required. Projected cost for the librarian is $5,000 in FY 2009-2010 increasing to $11,000 in FY 2012-2013.
- Due to the highly specialized, technical nature of this program, a part-time student services/academic advisor will be necessary to assist and advise students with degree requirements and career opportunities. The projected expense for the student services position is $20,781 in FY 2009-10, increasing to $22,708 by FY 2012-2013.
- Professional services costs are estimated at $15,000 in FY 2009-2010 and $10,000 each year through FY 2012-2013. Professional services funds will be utilized for consulting services to assist in the development of curriculum, laboratories, instructional aids, and grant-related research and writing. Professional consultants will also be used to create advertisement and publicity for the program.
- MDC will seek accreditation from ABET, Inc. Initial application and site visit costs will be incurred in 2011-2012 corresponding with the first student graduations from the BAS EET program in accordance with ABET requirements. Accreditation expenses are projected to be approximately $5,000 annually, based on current quoted fees from ABET.

- Capital Outlay

Library Resources Although the College has a library/resource center, additional funding is required to update texts, periodicals, and upper-division level resource material. It is anticipated that $80,500 will be required in FY 2009-2010 to begin establishing a modern Electronics Engineering Technology library consisting of updated senior level institution text books, new periodicals, and an electronic library of resource materials. An additional $82,750 will be needed in FY 2010-2011, to continue development of library resource materials. In FY 2011-2012 and FY2012-2013, expenses will be reduced to $5,000 annually, as library resources reach a maintenance level.

Information Technology Equipment In FY 2009-2010, it will be necessary to purchase $25,000 in computers for the manager, faculty, and staff members who will support the BAS program. In FY 2010-2011, an additional $28,000 in equipment will be necessary as additional staff is hired. Information technology expenses are expected to decline to $8,000 in FY 2011-2012 and FY2012-2013. As the program continues to grow and develop, additional technology purchases will be required to update and refresh equipment as necessary.

Other Equipment State-of-the-art electronics and testing equipment are required at the upper division institution program level including, but not limited to, virtual circuit boards (NI ELVIS circuit and microprocessor bundles), circuit analysis and simulation software, PLC (programmable logic controller) development boards, state of the art computer systems for circuit and system testing and analysis, robotics laboratory equipment, and system prototype

development kits (Blackfin EZ-KIT). The program will stage the acquisition of this equipment with $142,000 invested in FY 2009-2010, $131,918 in FY 2010-2011, and declining to $4,723 in FY2011-2013. Appendix 11 provides details of the specialized equipment that will be required.

Facilities/Renovation Some facilities modifications will be necessary to accommodate the program and modify existing structures including the development of three new state-of-the-art engineering laboratories. Estimated outlays for facilities renovations are $60,000 occurring in FY 2009-2010, $20,000 in FY2010-2011, and $10,000 each in FY 2011-2012 and 2012-2013.

- Nature of Expenditures

  The vast majority of expenditures, as reflected in the attached *Enrollment, Performance, and Budget Plan* (Appendix 14), will be recurring expenses. Non-recurring expenses will consist of facilities renovation, information technology equipment, and other equipment purchases.

- Sources of Funds

Miami Dade College will utilize two revenue streams to implement and expand the proposed BAS EET Program.

- **State funding** will provide a $3,657.00 subsidy for each FTE student.
- **Tuition** is estimated at the approximate rate of $69.40 per upper division credit hour (exclusive of other fees) based on 2008-2009 rates.

As noted in Table 6, the 2008-2009 total cost per credit hour at Miami Dade College is $69.40, which is less than the average State university undergraduate cost of $132.36. Therefore, Miami Dade College will be able to provide the BAS degree in Electronics Engineering Technology in a more cost-effective manner than similar programs offered at State and private universities.

The majority of revenue for the BAS in Electronics Engineering Technology degree will come from baccalaureate degree grants from the state. The remaining program funding source will be student fees, projected to increase by 5 percent per credit annually. Additionally, the Engineering Department will seek grants and other sources of revenue available to the College. Table 13 compares revenue sources by fiscal year:

Table 13: Comparison of Revenue Sources by Fiscal Year

FISCAL YEAR	2009-2010	2010-2011	2011-2012	2012-2013
Baccalaureate Grants from State	$35,107	$92,156	$197,478	$222,224
Student fees	$19,987	$52,466	$112,428	$126,516
Other Grants or Revenues	426,299	$384,440	$0	$0

In FY2012-2013, when stable enrollment and graduation rates are reached and non-recurring start-up funding has been completed, State Funds will represent 24.6% percent of the required funding for the four-year enrollment period projection with the balance coming from student fees and other sources. For additional information, please refer to the *attached Enrollment, Performance, and Budget Plan* (Appendix 14).

H. Accreditation Plan

On June 24, 2004, Miami Dade College received accreditation by the Southern Association of Colleges and Schools (SACS), Commission on Colleges as a Level 2 institution to offer and award the Bachelor of Science degree in Secondary Science Education, Secondary Mathematics Education, and in Exceptional Student Education. On March 21, 2006, the Florida Board of Education unanimously approved Miami Dade College's (MDC) request to offer a Bachelor of Applied Science (BAS) with a major in Public Safety Management and on Feb. 20, 2007, the Florida Board of Education unanimously approved Miami Dade College's request to offer a Bachelor of Science in Nursing (BSN). Additional notification will be submitted, if required, pending approval of the BAS EET proposal by the State of Florida Department of Education.

MDC intends to apply for ABET certification. This accreditation is an important credential in the engineering profession and will enhance the value of the BAS-EET to program graduates. According to ABET accreditation qualifications, institutions may seek accreditation from ABET after one graduation cycle. It is anticipated therefore, that the accreditation process will begin approximately in the 2011-2012 (Fall 2011) timeframe after the first students have graduated from the program, as required by ABET.

I. Plan of Action in Case of Program Termination

As mandated by the State Board of Education, Miami Dade College will demonstrate diligence to individual student needs in the event of program termination and will enact an approved degree completion plan to enable eligible students to complete the appropriate BAS EET program coursework no later than two academic years following the termination decision. The Department of Engineering will provide transition services to students, including a transition educational plan outlining coursework and program options for program completion and will ensure that the program will remain open and provide "train-out" options to allow eligible students currently enrolled to complete graduation requirements. The plan will be comprised of courses based on an individual student review, with transfer and advising assistance provided. MDC will maintain transcripts of BAS EET students and program graduates in accordance with MDC policies and procedures and will maintain and archive the BAS EET course descriptions and representative course syllabi. Every effort to serve the interests of affected students will be observed in the event of program termination.

Miami Dade College will adhere to the stipulations as mandated by the State Board of Education regarding its monitoring of the program implementation through annual reviews. All educational programs at MDC are reviewed on a five-year cycle (Appendix 12) and follow established operational procedures for college-wide evaluation. Following this process, MDC develops program recommendations to continue, modify, or discontinue specific programs and this same procedure would be followed in case of program termination. MDC academic programs are to be reviewed on a five year cycle and each program review addresses five areas:

1. Program goals and rationale
2. Outcomes assessment
3. Program resources and support
4. Program strengths/opportunities for improvement
5. Program viability

Proposal Implementation

Implementation is planned for Spring (January) 2010 and, upon State Board of Education approval of the proposed Miami Dade College BAS in Electronics Engineering Technology program, a Memorandum of Agreement (MOA) will be developed listing the criteria for initial release of funds and for continuing program approval as stipulated by the State. Upon approval, the MOA will be signed by the Miami Dade College President and the Commissioner on behalf of the SBE. Funding, as determined by the Commissioner, approved by the SBE, and specified in the MOA, will be released upon receipt of the signed MOA.

Terms and Conditions of Program Continuation

As indicated in the current Miami Dade College Program Review Policy (Appendix 12), MDC will adhere to all requirements as stipulated in the MOA. MDC values a systematic approach to decision making and assessment of program effectiveness and is in compliance with *Florida Statute 1001.03 (13)* regarding a cyclic review of post-secondary academic programs. MDC will provide data required by the Chancellor of Community Colleges and revisions to budget information (such as FTE, faculty hires, etc.), as appropriate.

Miami Dade College understands that continued funding will be based upon performance specified in annual reports and dependent on Legislative funding. Once the program is established, continued funding will be provided via the upper-division funding model approved by the Legislature.

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APPENDICES

for the

BACHELOR OF APPLIED SCIENCE

with a major in

ELECTRONICS ENGINEERING TECHNOLOGY

Submitted to

THE FLORIDA DEPARTMENT OF EDUCATION

by

MIAMI DADE COLLEGE
SCHOOL OF COMPUTER AND ENGINEERING TECHNOLOGIES
September 1, 2008

Revisions Submitted
December 16, 2008

Appendix 1 Survey of MDC Associate in Science EET Students

Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS – SEPTEMBER 2007 ADMINISTRATION

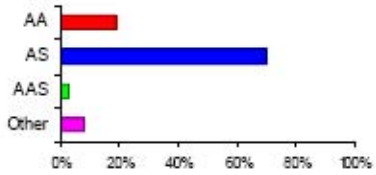
The following are highlights from the surveys conducted to evaluate student interest in a proposed BAS degree in Electronic Engineering Technology at MDC. Institutional Research created the surveys with input from the School of Computer and Engineering Technologies. The on-line survey was administered by faculty teaching courses with a high proportion of AS students in September, 2007.

The survey was completed by 37 students. IR analyzed the responses and prepared this summary to highlight the most important points.

1. In which MDC degree program are you currently enrolled?

- The majority of currently enrolled students are seeking an AS degree (70%); 19% are pursuing an AA degree.

	No.	%
AA	7	18.9%
AS	26	70.3%
AAS	1	2.7%
Other	3	8.1%
Total	37	100.0%



2. Are you planning to pursue a Baccalaureate degree after completing an Associate degree program?

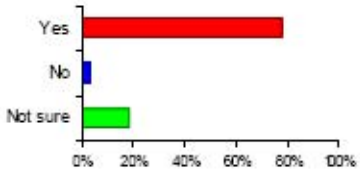
- Most students indicated they are planning to pursue a baccalaureate degree (87%); 14% are unsure; and none indicated that they will not pursue a baccalaureate.

If *yes* to question 2, complete the following questions:

3. If MDC offered a bachelors degree program in Electronics Engineering Technology, would you enroll?

- Seventy-eight percent indicated they would enroll in the EET program if a BAS was offered; 3% responded no, while 19% were unsure.

	No.	%
Yes	25	78.1%
No	1	3.1%
Not sure	6	18.8%
Total	32	100.0%



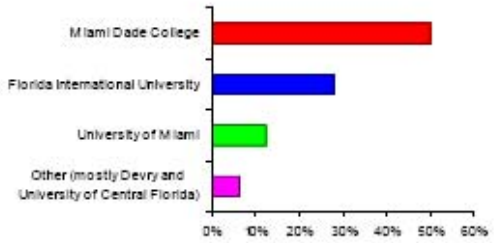
Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS – SEPTEMBER 2007 ADMINISTRATION

4. Please indicate the school you would most likely attend in Florida to pursue a bachelor's degree in Electronics Engineering. Use a rating scale of 1 to 8, with 1 being the first choice and 8 being the last.

- Of the seven choices, 50% of respondents indicated that MDC would be their first choice; 28% chose FIU as their first choice; 13% chose the University of Miami as their first choice.

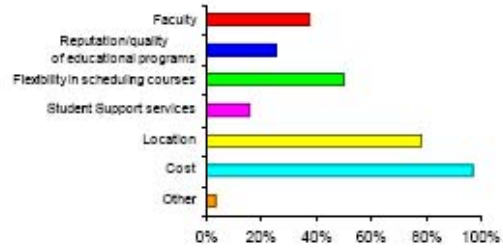
Ranked as their first choice	%
Miami Dade College	50.0%
Florida International University	28.1%
University of Miami	12.5%
Other (mostly Devry and University of Central Florida)	6.3%



5. In what ways does MDC excel over other colleges with similar programs? Check all that apply.

- MDC student respondents said that the cost of MDC and the locations excel over other institutions with similar programs.

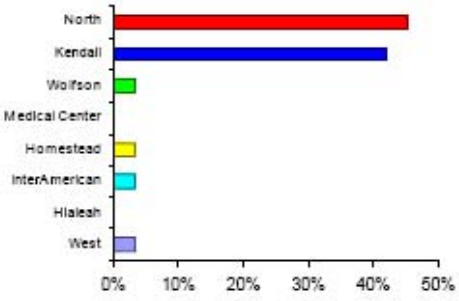
Faculty	12	37.5%
Reputation/quality of educational programs	8	25.0%
Flexibility in scheduling courses	16	50.0%
Student Support services	5	15.6%
Location	25	78.1%
Cost	31	96.9%
Other	1	3.1%
Unduplicated Total	**32**	



6. If MDC offered a BAS degree in Electronics Engineering Technology, which campus would be your first choice?

- Most students indicated that the North and Kendall campus would be their first choice to pursue the BAS in EET.

Campus	No.	%
North	14	45.2%
Kendall	13	41.9%
Wolfson	1	3.2%
Medical Center	0	0.0%
Homestead	1	3.2%
InterAmerican	1	3.2%
Hialeah	0	0.0%
West	1	3.2%
Total	**31**	**100.0%**



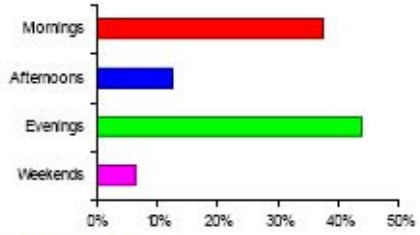
Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS – SEPTEMBER 2007 ADMINISTRATION

7. When would you prefer to take most of your classes?

- Respondents indicated that they prefer to take the majority of their classes in the evening (44%) and the morning (38%).

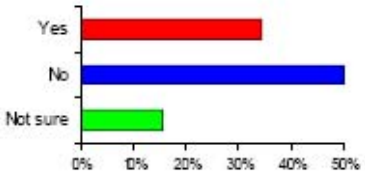
	No.	%
Mornings	12	37.5%
Afternoons	4	12.5%
Evenings	14	43.8%
Weekends	2	6.3%
Total	32	100.0%



8. Would you be interested in taking BAS program courses on-line?

- Thirty-four percent stated that they would be interested in taking online courses.

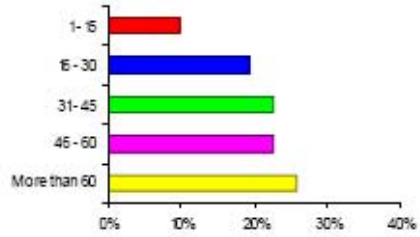
	No.	%
Yes	11	34.4%
No	16	50.0%
Not sure	5	15.6%
Total	32	100.0%



9. How many credits have you completed towards a MDC degree?

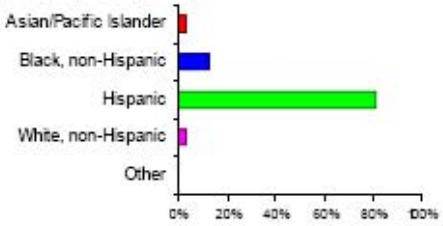
- Twenty-six percent of respondents have taken more than 60 credits toward their MDC degree; 45% have taken between 31 and 60 credits toward a degree.

	No.	%
1 - 15	3	9.7%
16 - 30	6	19.4%
31 - 45	7	22.6%
46 - 60	7	22.6%
More than 60	8	25.8%
Total	31	100.0%



10. What is your racial/ethnic group?

	No.	%
Asian/Pacific Islander	1	3.1%
Black, non-Hispanic	4	12.5%
Hispanic	26	81.3%
White, non-Hispanic	1	3.1%
Other	0	0.0%
Total	32	100.0%

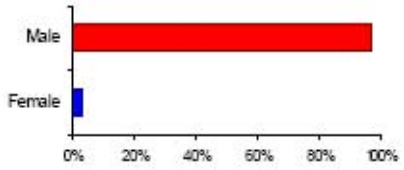


Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS – SEPTEMBER 2007 ADMINISTRATION

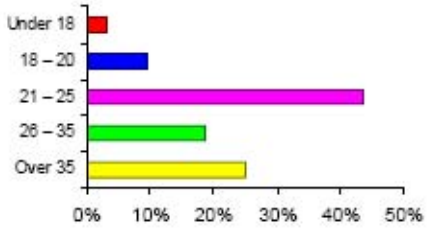
11. What is your gender?

	No.	%
Male	31	96.9%
Female	1	3.1%
Total	32	100.0%



12. What is your age?

	No.	%
Under 18	1	3.1%
18 – 20	3	9.4%
21 – 25	14	43.8%
26 – 35	6	18.8%
Over 35	8	25.0%
Total	32	100.0%



Appendix 2 MDC Survey of Employers

Miami Dade College

PROPOSED BAS ELECTRONICS ENGINEERING TECHNOLOGY PROGRAM
EMPLOYER SURVEY

The following are highlights from the Employer survey conducted to evaluate interest in a proposed BAS degree in Electronic Engineering Technology at MDC. Institutional Research created the survey with input from the School of Computer and Engineering Technologies.

This survey was administered over the phone by the School of Engineering and 6 employers responded. Results are shown below for each item.

1. **Please indicate the most important characteristics you consider when making decisions to hire students from the local colleges or universities. Use a rating scale of 1 to 5, with 1 being the first choice and 5 being the last.**
   1) reputation of institution
   2) length or program/degree level
   3) applicant's technical/work-related education and experience
   4) applicant's general education courses and foundation
   5) Other _____

Only one respondent ranked any of the items "1" and the item was "the applicant's general education courses and foundation". Two ranked "length of program/degree level" second, and 5 ranked "reputation of the institution" third. "Applicant's technical/work related education and general education courses" were each ranked by 3 respondents as the fourth choice. Four respondents chose "other" indicating that actual discipline, attitude and GPA, personal characteristics and Coulter Electronics Test were important factors.

2. **When evaluating applications, would you rather hire someone with a (n) (select one)**
   1) High School Diploma
   2) Associates degree ***One respondent (17%)***
   3) Bachelor's degree ***Five (83%)***
   4) Masters Degree
   5) Other _____

3. **Have you hired Associate in Science (AS) engineering graduates in the past?**
   1) Yes ***Four respondents (67%)***
   2) No ***Two (33%)***
   3) Not sure

4. **Are there positions in your organization for which a bachelor's degree is most desirable?**
   1) Yes ***All 6 (100%)***
   2) No
   3) Not sure

5. **Do you provide additional training for AS graduates after hiring?**
   1) Yes ***All 6 (100%)***
   2) No
   3) Not sure

Miami Dade College

PROPOSED BAS ELECTRONICS ENGINEERING TECHNOLOGY PROGRAM
EMPLOYER SURVEY

6. **Do you offer opportunities for employees to continue their education?**
   1) Yes ***Five respondents (83%)***
   2) No ***One (17%)***
   3) Not sure

7. **If MDC offered a Bachelor of Applied Science in Electronics Engineering Technology, how many employees do you think would be interested? (Text box for entry)**
   Responses ranged from 0 to 200, with a mean of 57.

8. **Approximately how many new positions will you be hiring for over the next 3-5 years?**
   1) Associates level positions: Please enter number ***Range = 10-120, mean=63 (2 no response)***
   2) Bachelor level positions: Please enter number ***Range = 8-500, mean=91.***

Please provide any suggestions related to this proposed degree program below (text box for entry). ***Provided in separate file.***

Appendix 2A Employer Survey Comments

Combine electronics with mechanical, learn latest technology such as Labview not just C++.

If MDC offers a Bachelor of Applied Science in Electroncis it would be a great source for FPL hiring. Currently FPL hire Bachelor engineering candidates primarily from UF. FIU candidates do not pass the FPL nuclear entry test. FPL would be interested in enrolling employees in the BAS at MDC since it would be more economical for FPL.

Ability to do bench level board repairs.

Hands-on and practical applications needed.

Would be particularily interested in the BAS if it can incorrporates aspects from the other engineering fields: Mechanical, Industrial, civil.

FAA hires bachelor degree holders for Atlanta and not Miami. The 25 posiions shown applies to Atlanta. For Miami, we hire graduates with AS in Electronics. Our AS holders are trained internally.

Appendix 3 MDC Alumni Survey

Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
ALUMNI SURVEY ANALYSIS HIGHLIGHTS 2007

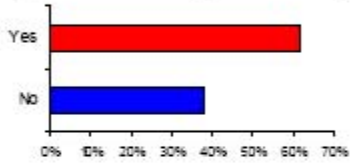
The following are highlights from the surveys conducted to evaluate alumni interest in a proposed BAS degree in Electronic Engineering Technology at MDC. Institutional Research created the surveys with input from the School of Computer and Engineering Technologies. The on-line survey was administered via email to students who completed an Electronics Engineering program at MDC between 2004-2006. Respondents had 2 weeks (7/6 - 7/20) to complete the surveys.

The survey was sent to 621 alumni and 63 responded (10%). IR subsequently analyzed the responses and prepared this summary to highlight the most important points.

1. Are you currently employed?

- Among the individuals surveyed approximately 62% indicated they were currently employed

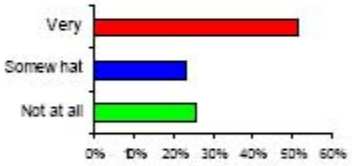
	No.	%
Yes	39	61.9%
No	24	38.1%
Total	63	100.0%



If yes, how related is your job to the Engineering major?

Fifty-one percent of the respondents stated that their current job is related to their engineering major

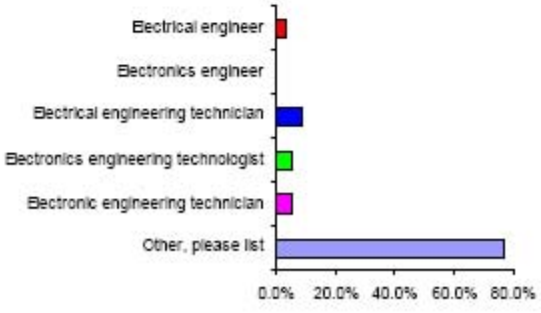
	No.	%
Very	20	51.3%
Somewhat	9	23.1%
Not at all	10	25.6%
Total	39	100.0%



2. Which of the following categories best describes your current position in field of Engineering?

- Seventy-seven percent of the respondents surveyed indicated their current position is another specified engineering position

	No.	%
Electrical engineer	1	2.9%
Electronics engineer	0	0.0%
Electrical engineering technician	3	8.6%
Electronics engineering technologist	2	5.7%
Electronic engineering technician	2	5.7%
Other, please list	27	77.1%
Total	35	100.0%



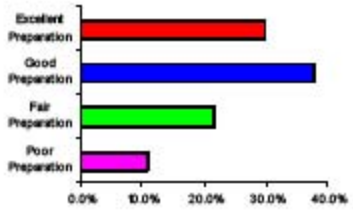
Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
ALUMNI SURVEY ANALYSIS HIGHLIGHTS 2007

3. If employed in your field of study, how well did MDC prepare you for your current position?

- Thirty percent of respondents stated that MDC's preparation for their current position was 'excellent'; 38% stated that their preparation was 'good.'

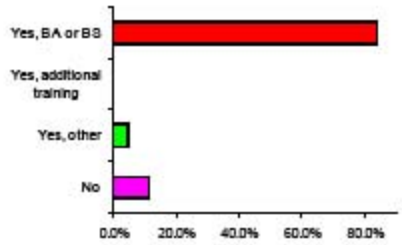
	No.	%
Excellent Preparation	11	29.7%
Good Preparation	14	37.8%
Fair Preparation	8	21.6%
Poor Preparation	4	10.8%
Total	37	100.0%



4. Have you enrolled in another college or university since graduating from MDC?

- Eighty-four percent of MDC alumni surveyed indicated that they have continued their education towards a BA or BS

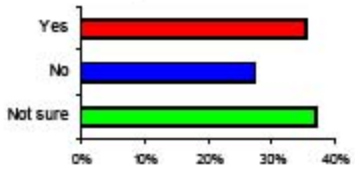
	No.	%
Yes, to persue a BA or BS	52	83.9%
Yes, additional training	0	0.0%
Yes, other	3	4.8%
No	7	11.3%
Total	62	100.0%



5. If MDC offered a Baccalaureate in Applied Science (BAS) degree program in Electronics Engineering Technology, would you enroll?

- Thirty-five percent of respondents stated that they would enroll if MDC offered a BAS degree in Electronics Engineering; 27% responded no; and 37% said they were not sure

	No.	%
Yes	22	35.5%
No	17	27.4%
Not sure	23	37.1%
Total	62	100.0%



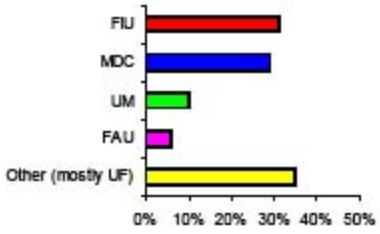
Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
ALUMNI SURVEY ANALYSIS HIGHLIGHTS 2007

6. If interested in earning a Baccalaureate degree in Electronics Engineering Technology, please indicate the school you would most likely attend to pursue a BS/BAS in Electronics Engineering Technology. Use a rating scale of 1 to 8, with 1 being the first choice and 8 being the last.

- Of the 7 schools to choose from, 29% of respondents ranked MDC as their first choice of schools to pursue a BA/BS degree; 31% ranked FIU as their first; and 10% ranked University of Miami as their first choice; 6% chose FAU. Of the 22 respondents who suggested "Other" colleges as their first choice, 16 (73%) chose the University of Florida.

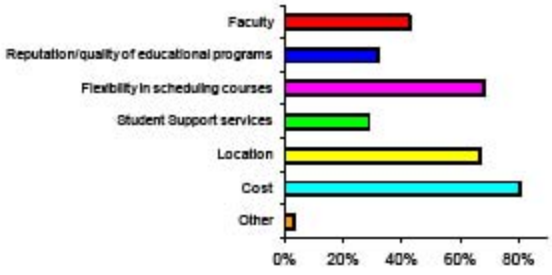
Ranked as their first choice	%
Florida International University	31.0%
Miami Dade College	29.0%
University of Miami	10.0%
Florida Atlantic University	6.0%
Other (mostly University of Florida)	34.9%



7. In what ways does MDC excel over other colleges with similar programs? Check all that apply.

- Results suggest that most MDC alumni find that the cost of MDC is what makes the college excel over other institutions with similar programs

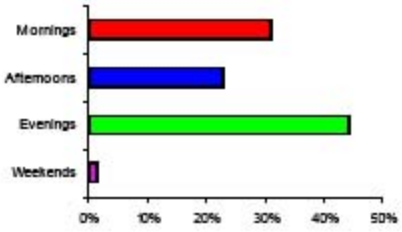
	No.	%
Faculty	27	42.9%
Reputation/quality of educational programs	20	31.7%
Flexibility in scheduling courses	43	68.3%
Student Support services	18	28.6%
Location	42	66.7%
Cost	51	81.0%
Other	2	3.2%
Total	203	



8. If you returned to MDC to pursue a BAS, when would you prefer to take most of your classes?

- Forty-four percent of respondents indicated that they would prefer to take most of their classes in the evenings if returned to pursue a BAS

	No.	%
Mornings	19	31.1%
Afternoons	14	23.0%
Evenings	27	44.3%
Weekends	1	1.6%
Total	61	100.0%



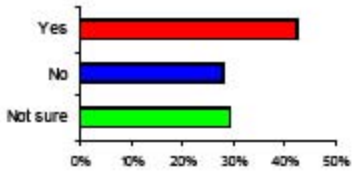
Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
ALUMNI SURVEY ANALYSIS HIGHLIGHTS 2007

9. Would you be interested in taking BAS program courses online?

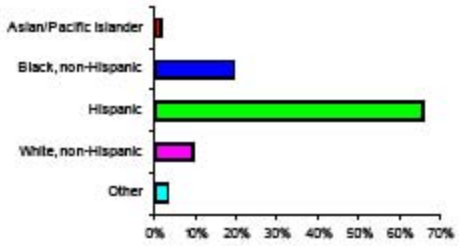
- Forty-three percent stated that would be interested in taking online courses

	No.	%
Yes	26	42.6%
No	17	27.9%
Not sure	18	29.5%
Total	61	100.0%



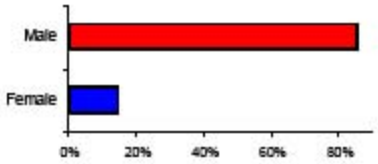
10. What is your racial/ethnic group?

	No.	%
Asian/Pacific Islander	1	1.6%
Black, non-Hispanic	12	19.4%
Hispanic	41	66.1%
White, non-Hispanic	6	9.7%
Other	2	3.2%
Total	62	100.0%



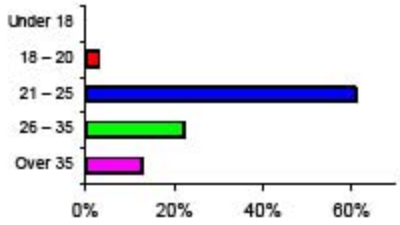
11. What is your gender?

	No.	%
Male	53	85.5%
Female	9	14.5%
Total	62	100.0%



12. What is your age?

	No.	%
Under 18	-	0.0%
18 – 20	2	3.2%
21 – 25	38	61.3%
26 – 35	14	22.6%
Over 35	8	12.9%
Total	62	100.0%



Appendix 4 MDC Survey of EET Students – Combined AS and AA degree-seeking

Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS 2007

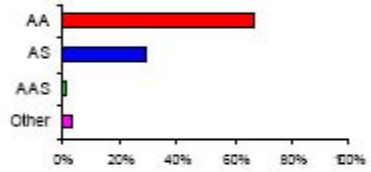
The following are highlights from two surveys conducted to evaluate student interest in a proposed BAS degree in Electronic Engineering Technology at MDC. Institutional Research created the surveys with input from the School of Computer and Engineering Technologies. The surveys were administered on-line by the School Director and SCET faculty to students who are currently enrolled in an Electronics Engineering program at MDC.

The first survey was sent to 2,981 students and 153 responded (5%). The second survey was administered by faculty and yielded 37 responses, for a total of 190 for both surveys. IR subsequently analyzed the responses and prepared this summary to highlight the most important points.

1. **In which MDC degree program are you currently enrolled?**

- Majority of currently enrolled students are seeking an AA degree (67%); 29% are pursuing an AS degree

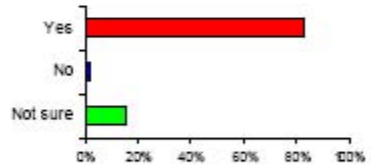
	No.	%
AA	127	66.8%
AS	55	28.9%
AAS	2	1.1%
Other	6	3.2%
Total	190	100.0%



2. **Are you planning to pursue a Baccalaureate degree after completing an Associate degree program?**

- Most students indicated they are planning to pursue a baccalaureate degree (83%); 15% are unsure
- Students that are approaching graduation (46+ credits) were more likely to say they plan to pursue a baccalaureate degree

	No.	%
Yes	158	83.2%
No	3	1.6%
Not sure	29	15.3%
Total	190	100.0%



Miami Dade College

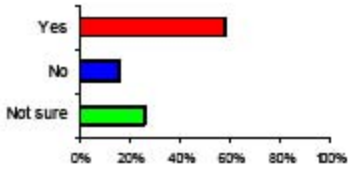
BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS 2007

If yes to question 2, complete the following questions:

3. If MDC offered a bachelors degree program in Electronics Engineering Technology, would you enroll?

- Fifty-eight percent indicated they would enroll in the EET program if they offered a BAS; 16% responded no while 26% were unsure

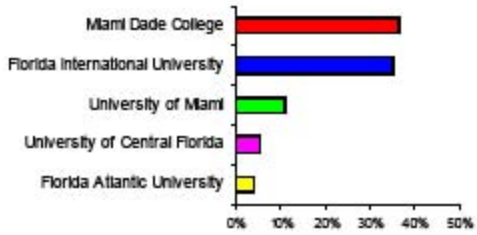
	No.	%
Yes	92	58.2%
No	25	15.8%
Not sure	41	25.9%
Total	158	100.0%



4. Please indicate the school you would most likely attend in Florida to pursue a bachelor's degree in Electronics Engineering. Use a rating scale of 1 to 8, with 1 being the first choice and 8 being the last.

- Of the seven choices, 37% of respondents indicated that MDC would be their first choice; 35% chose FIU as their first choice; 11% chose the University of Miami as their first choice; 6% chose UCF; and 4% chose FAU. Of the 12 students who suggested 'other' colleges as their first choice, most indicated the University of Florida.

Ranked as their first choice	%
Miami Dade College	36.6%
Florida International University	35.2%
University of Miami	11.0%
University of Central Florida	5.5%
Florida Atlantic University	4.1%



5. In what ways does MDC excel over other colleges with similar programs? Check all that apply.

- Results suggest that most MDC alumni find that the cost of MDC is what makes it excel over other institutions with similar programs

	No.	%
Faculty	65	41.1%
Reputation/quality of educational programs	50	31.6%
Flexibility in scheduling courses	97	61.4%
Student Support services	29	18.4%
Location	112	70.9%
Cost	138	87.3%
Other	6	3.8%
Unduplicated Total	158	

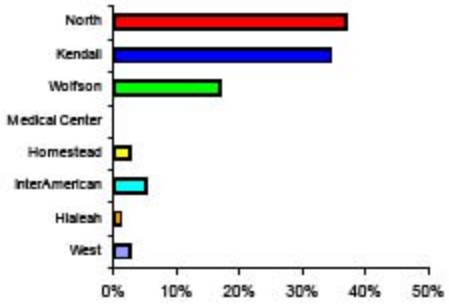
Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS 2007

6. If MDC offered a BAS degree in Electronics Engineering Technology, which campus would be your first choice?

- Most students indicated that the North and Kendall campus would be their first choice to pursue the BAS in EET

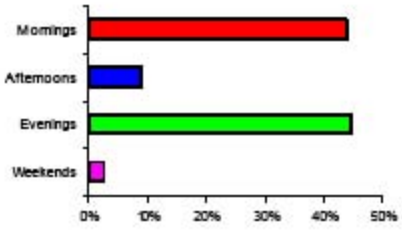
Campus	No.	%
North	57	37.0%
Kendall	53	34.4%
Wolfson	26	16.9%
Medical Center	0	0.0%
Homestead	4	2.6%
InterAmerican	8	5.2%
Hialeah	2	1.3%
West	4	2.6%
Total	154	100.0%



7. When would you prefer to take most of your classes?

- Respondents indicated that they prefer to take the majority of their classes in the evening (45%) and the morning (44%)

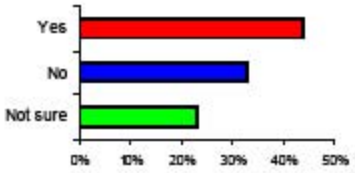
	No.	%
Mornings	68	43.9%
Afternoons	14	9.0%
Evenings	69	44.5%
Weekends	4	2.6%
Total	155	100.0%



8. Would you be interested in taking BAS program courses on-line?

- Forty-four percent stated that they would be interested in taking on-line courses

	No.	%
Yes	68	43.9%
No	51	32.9%
Not sure	36	23.2%
Total	155	100.0%



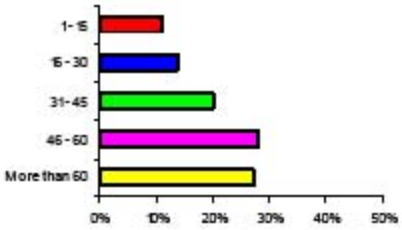
Miami Dade College

BAS ELECTRONICS ENGINEERING TECHNOLOGY
STUDENT SURVEY ANALYSIS HIGHLIGHTS 2007

9. How many credits have you completed towards a MDC degree?

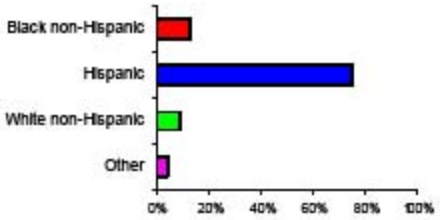
- Twenty-eight percent of respondents have taken between 46-60 credits hours toward their MDC degree; 27% have taken at least 60 plus credits towards their MDC degree
- Based on the number of credits taken, most students surveyed are near completion of their degree; offering a BAS can potentially retain many of these students that otherwise are transitioning out of the school

	No.	%
1 - 15	17	11.0%
16 - 30	21	13.6%
31 - 45	31	20.1%
46 - 60	43	27.9%
More than 60	42	27.3%
Total	154	100.0%



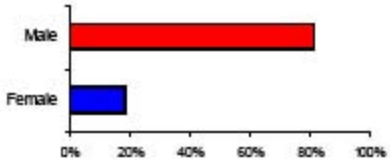
10. What is your racial/ethnic group?

	No.	%
Black non-Hispanic	20	12.9%
Hispanic	116	74.8%
White non-Hispanic	13	8.4%
Other	6	3.9%
Total	155	100.0%



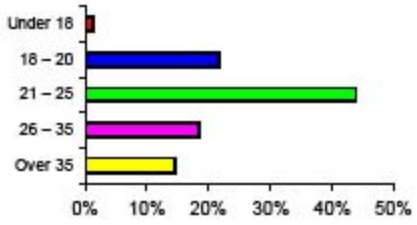
11. What is your gender?

	No.	%
Male	128	81.5%
Female	29	18.5%
Total	157	100.0%



12. What is your age?

	No.	%
Under 18	2	1.3%
18 – 20	34	21.7%
21 – 25	69	43.9%
26 – 35	29	18.5%
Over 35	23	14.6%
Total	157	100.0%



Appendix 5: Letters of Support

JACOBS
Carter Burgess

80 S.W. 8 Street
Suite 1915
Miami, FL 33130
Phone: 305.523.6100
Fax: 305.523.6199
www.c-b.com

Architecture COA AAC001802
Engineering COA 5300
Interior Design COA 1B0001282
Landscape Architecture COA LC26000203
Land Surveying COA LB7455

August 4, 2008

Dr. Richard White
Director
School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

On behalf of Miami Dade College (MDC)'s Engineering Advisory Committee, which I chair, and my employer Jacobs Carter Burgess, I want to express full support for the proposed Baccalaureate degree in Electronics Engineering Technology.

MDC's Engineering Advisory Committee, consisting of top-level managers and engineering professionals working in South Florida, recognizes the importance of higher education in developing a talent pool of engineering professionals. We represent organizations involved in the development of MDC's proposed degree and are very familiar with the benefits this program will bring to our professional community and the organizations which employ us. We want to commend you on pursuing this initiative.

As Managing Principal of Jacobs Carter Burgess, I have seen the benefits of our company's investments in quality training and education for our workforce. In that regard, it is my understanding that this four-year degree in Electronics Engineering Technology is designed to better prepare engineering professionals with the knowledge they need to contribute to Miami Dade County's continued economic growth. Miami Dade College has traditionally been instrumental in preparing the local workforce with the knowledge and skills so vital to succeed in the workplace. Having the proposed four-year degree from Miami Dade College will increase the number of local candidates who can serve as electronics engineers in our community.

I thank Miami Dade College for its continued efforts to improve the quality of its programs and the caliber of our local engineering workforce.

Sincerely,

Joseph M. Yesbeck, P.E.
Managing Principal
Chairperson, Engineering Advisory Committee of Miami Dade College

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Operates the statewide Turnpike System as part of the Florida Department of Transportation

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Secretary of Transportation

JAMES L. ELY
Executive Director

Turnpike Enterprise
Miami Regional Toll Office
8700 West Flagler St. #180
Miami, Florida 33174

Tel: 305.229.6200

www.floridasturnpike.com

Dr. Richard White
Director, School of Computer
& Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

It is with great interest and enthusiasm that I provide a letter of support to your college for the proposed Baccalaureate degree offering in Electronics Engineering Technology. As System Support Manager for the Miami Toll System of the Florida's Turnpike Enterprise, I can verify that electronics engineers are a vital part of our team. Ensuring that we recruit Electronic Engineers who are well trained, knowledgeable about effective Electronics Engineering processes and methods, and moreover, committed to our community is absolutely essential and vital.

By offering prospective and current Electronics Engineering Technology personnel the opportunity to enhance their education through the proposed degree, the college will greatly contribute to the professional development of countless workers. Miami-Dade College is a key provider of low cost, high quality education in Miami-Dade County and we are delighted to support this new effort, as it will help enhance the reputation of this respectable college.

I look forward to working with you.

Respectfully,

Anobb Hyacinthe, CPM
Miami Toll System Support Manager

Miami-Dade County Public Schools
giving our students the world

Superintendent of Schools
Rudolph F. Crew, Ed.D.

Miami-Dade County School
Agustin J. Barrera,
Perla Tabares Hantman, Vice
Renier Diaz de la
Evelyn Langlieb
Dr. Wilbert "Tee" Ho
Dr. Marti
Ana Rivas
Dr. Marta
Dr. Solomon C. S

July 29, 2008

Dr. Richard White
Director, School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

I have recently been informed of Miami Dade College's (MDC) interest in providing a valuable four-year degree offering to the South Florida community: the Bachelor of Applied Science degree in Electronics Engineering Technology.

As you are aware, Miami-Dade County Public Schools has enjoyed a long-standing partnership with MDC, founded upon mutual goals and objectives. Our educational systems seek to provide quality education and training to all students and prepare them to effectively enter the engineering profession. Each year, many of our students graduating from the public school systems enroll at Miami Dade College in AA, AS, vocational, and specialized certificate engineering programs. I am certain that our students will benefit for years to come from this much-needed, highly specialized degree for Electronics Engineers.

As such, I am pleased to know that the college continues to further this mission and its efforts by providing workforce education to our students and expanding hands-on, job relevant courses to meet the needs of our community.

I fully support the Electronics Engineering Technology degree proposal.

Sincerely,

Alina Puentes, Supervisor
School Choice and Parental Options
Academy of Engineering Director

women across technology

July 28, 2008

Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Attention: Dr. Richard White
Director, School of Computer & Engineering Technologies

Dear Dr. White:

It is with great enthusiasm that we extend ITWomen's support of Miami Dade College's proposed Baccalaureate degree in Electronics Engineering Technology.

ITWomen has enjoyed a long and productive partnership with MDC in supporting our mutual goal of expanding the participation women in technology. We welcome this latest initiative as another demonstration of the College's mission to provide much needed educational opportunities to the Miami Dade County community. The availability of an affordable 4-year engineering degree should attract more women to participate and enable them to improve their long-term career prospects.

We congratulate Miami Dade College for initiating this program and look forward to working with the staff and faculty in bringing this opportunity to our constituency. We also look forward to working with your new students of this program

Best regards,

Victoria Usherenko
President, ITWomen

Sherry Thompson Giordano
Executive Director, ITWomen

FPL Group, 700 Universe Blvd, Juno Beach, FL 33408
561.691.7136

July 24, 2008

Dr. Richard White
Director, School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

Thank you for sharing with me the Miami Dade College proposal to implement a Baccalaureate Degree in Electronics Engineering Technology.

I recognize the need within South Florida to expand this expertise, which can only support Florida Power and Light efforts to provide quality training and education for our workforce. Your program will aid us greatly by providing a well-prepared pipeline of entry level engineering professionals.

I wholeheartedly support the College's outstanding efforts to enhance the education and training credentials of Electronics Engineering professionals in our community.

Sincerely,

Rodney M. Miller
Dean, FPL Group University
Director of Learning and Development, Workforce Planning

SFMA
South Florida Manufacturers Association

1000 W. McNab R
Pompano Beach, FL 33
Telephone: (954) 941-3
Fax: (954) 941-3
www.sfma.

July 28, 2008

Dr. Richard White
Director, School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

The South Florida Manufacturers Association extends its support to the initiative at Miami-Dade College to enhance the educational and training credentials of Electronics Engineering Technology professionals here in South Florida.

The College has responded well to the training needs of the manufacturing industry. This four-year degree program will better prepare existing, as well as future, Electronics Engineering Technology professionals which our manufacturers rely upon to compete and excel in this increasingly competitive world market.

For almost 50 years the mission of the South Florida Manufacturers Association has been to promote the growth and economic well being of the regions manufacturers by acting as a unified force, representing common interests and by providing need products and services. For the past 5 or 6 years the manufacturers have listed finding a qualified workforce as one of their greatest challenges. Having manufacturing engineers trained locally will help overcome that challenge.

On behalf of the South Florida Manufacturers Association, we appreciate your diligent efforts in addressing this critical shortage area in the manufacturing profession.

My best,

June Wolfe
President

ENTERPRISE
DEVELOPMENT
CORPORATION

July 24, 2008

Dr. Richard White
Director, School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

It is with great pleasure that Enterprise Development Corporation of South Florida (EDC) fully lends its support to the Miami Dade College application to offer a four-year degree program in Electronics Engineering Technology.

EDC is a non profit organization that assists early stage science and technology companies. As a public/private partnership, EDC is focused on building long-term business prosperity by providing advocacy, networking, resources, and training to South Florida residents.

Miami Dade College has been an essential partner fulfilling our mission and has been instrumental in satisfying this community's workforce training needs. Electronics Engineering Technology personnel are vital to the growth of the technology industry in Miami-Dade County and neighboring communities.

On behalf of the Enterprise Development Corporation, please accept our full support towards the proposed Baccalaureate degree offering in Electronics Engineering Technology.

Sincerely,

Jane Teague
Executive Director

3701 FAU Boulevard
Suite 210
Boca Raton, FL 33431

Building Science and Technology Enterprises

561.620.8494
Fax: 561.620.8493
www.edc-tech.org

July 24, 2008

Dr. Richard White
Director , School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

One of the primary goals of the InternetCoast is to promote the general economic welfare of Southeast Florida and Miami-Dade County. There is a tremendous need within our community to expand workforce development, training, and educational opportunities.

As Executive Director of InternetCoast, I am writing to offer my support for Miami Dade College's Baccalaureate Degree in Electronics Engineering Technology.

The quality of life in our community will be enhanced through the training and education of our Electronic Engineer Technology professionals. The business sector will thrive as a result of an increased perception of safety and security among our citizens. As you know, the business sector of our community provides substantial revenue to Miami-Dade County and additional degree offerings can only serve to advance the business community as a whole.

I look forward to the progress that will materialize for the workforce community in Miami-Dade County.

Sincerely Yours,

Michael Corbit
Executive Director

iCoast
310 Evernia St.
West Palm Beach, FL 33401
www.icoast.com

U.S. Department
of Transportation

Federal Aviation Administration

July 25, 2008

Dr. Richard White
Director, School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

I have recently been informed of a Miami Dade College initiative that seeks to implement a four-year baccalaureate degree in Electronics Engineering Technology.

As you are aware, the Federal Aviation Administration (FAA) and Miami Dade College have an established partnership built on many years of collaboration to cultivate our future leaders. We have successfully hired many MDC graduates and are looking forward to an expanded workforce pool of engineers.

I am delighted that the College will be submitting its proposal for approval from the State Board of Education to offer the Baccalaureate degree in Electronics Engineering Technology.

I commend you and your colleagues, for having the vision to proceed with this critical degree and I support its implementation.

Sincerely,

Darrell D. Roberts
Manager, Technical Operations Services

Jaime A. Borras

Corporate Vice President
iDEN Technology

May 30, 2008

Dr. Eduardo J. Padrón
President
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. Padrón:

I would like to thank Miami Dade College for planning the upcoming Bachelor of Applied Science degree in Electronics Engineering Technology. This long-overdue program is welcomed and needed.

Motorola benefits from a highly trained work force of electronics engineers. Additionally, Motorola has a long history of encouraging the continuation of higher education among its dedicated employees and your program fits that philosophy. Our goal has always been to expand our staff's preparation and career development opportunities.

This Bachelor of Applied Science program is a welcomed opportunity for those who seek to expand their education in Electronics Engineering Technology.

Please accept our gratitude and appreciation for implementing a much needed offering in the field of electronics engineering education in South Florida.

Sincerely,

Jaime A. Borras

Jaime A. Borras
Motorola Senior Fellow
Corporate Vice President

Motorola, Inc., Networks and Mobile Devices
8000 West Sunrise Blvd, MD: 52-4KK, Plantation, FL 33322-9947 U.S.A. Tel: +1 954 723 5109 Fax: +1 954 723 3391

AT&T Florida
9101 SW 24th St
Miami, Fl 33165

Dr. Richard White
Director, School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White: AT&T would like to thank Miami Dade College for planning for the anticipated new Bachelor of Applied Science degree in Electronics Engineering Technology. This new program is welcomed as AT&T benefits from the availability of enhanced Electronics Engineering training.

Please accept our gratitude and appreciation for implementing a positive addition into the field of Electronics Engineering education.

Best wishes in this endeavor,

Damaso Gonzalez, P.E.
Manager Construction & Engineering

Carnival

Dr. Richard White
Director, School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

I was pleased to learn about a proposal under development by Miami Dade College that would expand its offerings in the Electronics Engineering area by adding a bachelor's degree.

I believe this proposal has excellent support within professional engineering circles in our community. Carnival Cruise Lines requires a continuous pipeline of qualified professionally trained engineering technologists. This degree will improve the availability of local candidates for these positions and decrease our costs by eliminating relocation expenses.

I can assure you that we are definitely in favor of initiatives which offer advanced education to engineering technology professionals. Therefore, I support MDC's efforts to establish a Baccalaureate of Applied Science in Electronics Engineering Technology.

On behalf of Carnival, I would like to express our appreciation to you and your staff for the diligent efforts being put forth to address the educational needs of Carnival Cruise Lines.

Sincerely,

John P. Masseria
Manager, I/T Engineering, Information Systems

CARNIVAL CRUISE LINES, CARNIVAL PLACE, 3655 NW 87 AVENUE, MIAMI, FLORIDA 33178-2428
EXECUTIVE OFFICES (305) 599-2600

south florida Workforce
member: Empicy Florida

August 7, 2008

Dr. Richard White
Director
School of Computer & Engineering Technologies
Miami Dade College
300 N.E. Second Avenue
Miami, Florida 33132-2297

Dear Dr. White:

On behalf of the South Florida Workforce Investment Board (SFWIB), I am pleased to offer this letter of support on behalf of your efforts to seek approval of the Florida State Board of Education to offer a Bachelor of Applied Science Degree in Electronic Engineering Technology.

Our region's employers rely on the availability of a skilled and prepared workforce in South Florida and there is a need within our community to expand workforce development training, to better support the growing needs of South Florida businesses. In addition, we are aware of the shortage of bachelors prepared workers in Workforce Region 23 and believe this degree to be a positive, pro-active step in meeting the needs of local employers.

Miami Dade College has a history of meeting the educational needs of its community and we confidently support you in this important endeavor.

Sincerely,

Rick Beasley,
Executive Director
South Florida Workforce

Pc: Dr. Donna Jennings

7300 Corporate Center Drive, Suite 500 Miami, FL 33126-1234 Telephone: (305) 594-7615
www.SouthFloridaWorkforce.com

A division of Silicon Technology Solutions, Inc

August 7, 2008

Dr. Richard White Director, School of Computer &
Engineering Technologies
Miami Dade College 300
N.E. Second Avenue Miami,
Florida 33132-2297

Dear Dr. White:

Miami Dade College's Bachelor of Applied Science Degree in Electronics Engineering Technology will assist in producing Electronics Engineers that will add tremendous value to local economic development in our communities.

As principal owner of Just in Time I.T.'s, my organization looks forward to working with the College and its Electronics Engineering Technology graduates. Thank you for the opportunity to support this endeavor and I look forward to working with you and your team.

Respectfully,

James M. Smith
James M. Smith, President and CTO

831 NW 43 Ave Coconut Creek, FL 33066 Ph: 954.965.7875 Fax: 954.212.0149
www.justintimeit.com

Appendix 6 Industry Focus Group – Job Skills Analysis Matrix

Knowledge & Skills

Troubleshooting skills
Electro-optics
Communication skills
Technical writing
Schematic reading
Computer skills
Patents
CAD
Problem-solving skills
Oral communications skills
Legal issues in the workplace
Lasers and fiber optics
Delegating skills
People skills
Risk management
Logic diagrams
OSHA regulations
Basic first aid/CPR
HAZMATS
Research skills
Web page development
Decision-making skills
Negotiating skills
Fluid/pneumatics instrumentation
Power systems
Multi-level soldering
Interview skills
PLC's
Computer programming (C++ visual basic, etc.)
Basic electronic theory
Materials science
Basic chemistry
Calculus I
Calculus II
Physics I
Physics II
Digital and Data Communications
Control systems
Microprocessors
Process controls

Tools & Equipment

Microsoft Project
Primavera
FVD
Test equipment
Access/Excel/Word
Workbench
Math CAD
PSPICE
Basic hand tools
Logic analyzer
Computers

Traits & Attitudes

Ethical
Cultural sensitivity
Ability to learn
Motivated
Detail-oriented
Mechanically-inclined
Critical-thinking
Responsible
Team player
Logical

FRC Profile for

ELECTRONIC ENGINEERING TECHNOLOGIST

Miami Dade College

Panel Members:

Diego Quiros, Work Control/Project Management, FPL
Kaiwan Safavi, Resident Engineer/Project Engineer, FAA/Eastern Region
Damaso Gonzales, ATT
Anobb Hyacinthe, CPM, Miami Toll System Support Manager
Bradley A. Preston, Senior Engineer, FPL
James Smith, Just in Time I.T.
Timothy M. Sweeney, P.E. Electrical/I&C Engineering Supervisor
Juan M. Torrejon, Outside Plant Engineer, ATT

Facilitator:
Jerry W. Lancio, Director, FRC
Recorder:
Janet Sledge, Director, iTEC
Location:
Wolfson Campus, Miami-Dade College
Date:
May 15, 2007

Jerry W. Lancio, Director
Daytona Beach Community College
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Focus Statement: An Electronic Engineering Technologist works with engineers and other technical personnel on the design, development, testing, and troubleshooting of circuits and systems.

Duties

TASKS

A Systems Installation	A-1 Interpret design specifications	A-2 Apply methods of procedures (MOE)	A-3 Identify components	A-4 Acquire materials	A-5 Prepare site	A-6 Install components	A-7 Test components	A-8 Test system	A-9 Identify defects in system	A-10 Correct defects in system	A-11 Document maintenance guidelines	
B Design	B-1 Conduct needs assessment/ analysis	B-2 Brainstorm design concept	B-3 Conduct technology research	B-4 Develop design specifications	B-5 Identify appropriate standards	B-6 Develop conceptual design	B-7 Identify design limitations/ obstacles	B-8 Build prototype	B-9 Obtain stakeholder input	B-10 Finalize project	B-11 Design for safety	
C Testing	C-1 Develop a test plan	C-2 Identify test equipment	C-3 Identify test procedures	C-4 Identify testing risks and safety issues	C-5 Test components	C-6 Test system	C-7 Test system integration	C-8 Mitigate risks	C-9 Evaluate results	C-10 Resolve testing anomalies	C-11 Document test results	C-12 Ensure calibration and standard of testing equipment
D Identify problem	D-1 Identify problem	D-2 Gather problem details from end users	D-3 Identify symptoms	D-4 Utilize operating experience	D-5 Assure adequate spare parts inventory	D-6 Identify possible causes	D-7 Perform validation testing	D-8 Identify possible solutions	D-9 Fix problem	D-10 Perform root cause analysis	D-11 Identify preventive measures	D-12 Report problem for O.E. feedback
E Project Management	E-1 Define project	E-2 Establish project milestones	E-3 Establish project costs	E-4 Identify resources	E-5 Identify qualified team members	E-6 Identify project materials	E-7 Monitor progress of project	E-8 Establish contingency plan	E-9 Monitor costs	E-10 Establish contracts	E-11 Deliver completed product	E-12 Schedule activities between milestones
F Safety	F-1 Isolate energized sources	F-2 Use lock-out, tag-out	F-3 Wear appropriate personal protective equipment	F-4 Follow OSHA regulations	F-5 Locate MSDS	F-6 Use proper lifting techniques	F-7 Use proper tool for the job	F-8 Maintain a clean work area	F-9 Identify potential safety hazards	F-10 Follow HAZMAT regulations		
G Preventive/Predictive Maintenance	G-1 Follow maintenance procedures	G-2 Identify failure point	G-3 Identify operating parameters	G-4 Identify degrading trends	G-5 Obtain test results	G-6 Replace failed or degraded components	G-7 Reevaluate maintenance practices	G-8 Document results				
H Systems Operation	H-1 Perform start-up and shut-down procedures	H-2 Monitor critical parameters	H-3 Identify adverse trends	H-4 Take corrective action for degraded component	H-5 Identify system enhancements							
I Professional Development	I-1 Participate in internship or cooperative training program	I-2 Use a mentor	I-3 Join professional organization	I-4 Prepare and deliver a technical presentation	I-5 Conduct a research project							

E Project Management	E-13 Implement contingency actions as required	E-14 Conduct status meetings w/ stakeholders	E-15 Establish critical path										

Appendix 7 Statewide Articulation Manual Career Ladder Agreement (excerpt)

Associate in Science in Electrical Engineering Technology to a Baccalaureate in Electronic Engineering Technology (CIP 15.0303) and Engineering Technology General (CIP 15.1101) Track 2: Electrical

a. The articulated Associate in Science in Electrical Engineering Technology shall include:

i. Twenty-two (22) credit hours of general education including the following designated courses or an approved general education course in the designated discipline: MAC X105, PHY X048/X048L or PHY X053C (4), six (6) hours in Communication to meet the Gordon Rule requirement, six (6) hours in Social Science, three (3) hours in Humanities; and

ii. Thirty-eight (38) hours in technical core courses; and

iii. Eight (8) hours in technical electives courses.

b. The baccalaureate in Electronic Engineering Technology shall include:

i. The remaining thirteen (13) hours of general education to be taken at the university level and including PHY X049/X049L or PHY X054C (4), MAC X311 or equivalent; and other general education courses as determined by institutional requirements; and

ii. Four (4) hours in MAC X312 or equivalent; and

iii. Forty-eight (48) hours of engineering technology core courses.

c. The total hours for the AS to BS articulated degree shall be no more than 134 credit hours.

AS in EET to Baccalaureate Degree in EET Worksheet Summary

University and Community College Faculty Committee met and agreed to propose a 68 credit hour AS program and a 66 credit hour university program leading to a 134 credit hour AS/BS program.

The community colleges and universities agree to the described Associate in Science program with 22 hours of general education at the Community College level and 14 hours of general education at the university level. The math (including technical math) and communications will be transferable as long as they meet the requirements of the Gordon Rule.

The Bachelor of Science program will include a total of 66 hours and will be offered at the university level, including general education, Technology Core, Technology Specialization and Technical Electives. University programs will have to be modified to meet this program length requirement.

Community College: Associate in Science in Electronics Engineering Technology

General Education..... **22 Credit Hours**
Communications to meet Gordon Rule Requirement..... 6
Social Science Elective..... 6
Cultural (Humanities) Elective 3
MAC X105 3
PHY X048/X048L or PHY X053C..... 4

Technology Core..... **38 Credit Hours***
***Will transfer as a block of 38 hours of credit.**
DC Circuits/AC Circuits
Digital

Analog Devices / Solid State
Analog Circuits / Linear
Microprocessors
Electronic Communication
Computer Applications
Computer Programming (High Level)
Trigonometry

Technical Electives (Select Two)..... **8 Cr. Hours**
Any technical electives of the EET program

Total AS Degree Program = 68 Cr. Hours

University: Baccalaureate in Electronic Engineering Technology (CIP 15.0303) and Engineering Technology General (15.1101) Track 2: Electrical

General Education.....14 Credit Hours
Cultural/Humanities Elective 3
Communications..... 3
PHY X049/X049L or PHY X054 4
MAC X311..... 4

Engineering Technology Core.....48 Credit Hours

Additional Course MAC X312.....4 Credit Hours

Total University Hours.....66 Credit Hours

Total AS/BS EET Program.....no more than 134 Credit Hrs.

Justification for 134 total program hours

1) The primary purpose of the AS degree, to prepare students to enter the workforce, must be preserved. The AS core block ensures meeting that requirement.

2) The universities are required to include 48 hours of Upper Division course work for their BSEET Programs.

3) The Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (A-BET) establishes criteria for Engineering Technology programs. Three AS and two BS programs are currently accredited by this body. One AS program is seeking accreditation and others have future plans for accreditation. In order for the universities and community colleges to maintain their TAC/ABET accreditation, and not jeopardize their specialized accreditation, the program length specified must meet the hours as listed.

4) The BSEET Degree curricula must include the additional Mathematics and Science courses as prerequisites in order to meet minimum program criteria as specified by TAC ABET. The upper division coursework must complement and expand on the lower division work done at the AS degree level. The total program length specified accommodates these requirements.

Appendix 8 Learning Outcomes Course Mapping

Upper Division BAS-EET Course Mapping to Miami Dade College Learning Outcomes

MDC Learning Outcome	BAS-EET Upper Division Courses					
	CET3126C Advanced Micro-processors	CET 4190C Applied DSP	EET3158C Linear ICs	EET3XXX Power Systems	EET3716C Adv Sys Anal	EET4XXXC Signals/ Systems
1. Communicate effectively using listening, speaking, reading, and writing skills				X		
2. Use quantitative analytical skills to evaluate and process numerical data.	X	X	X	X	X	X
3. Solve problems using critical and creative thinking and scientific reasoning.	X	X	X	X	X	X
4. Formulate strategies to locate, evaluate, and apply information						X
5. Demonstrate knowledge of diverse cultures, including global and historical perspectives						
6. Create strategies that can be used to fulfill personal, civic and social responsibilities						
7. Demonstrate knowledge of ethical thinking and its application to issues in society						
8. Use computer and emerging technologies effectively.	X	X	X	X	X	X
9. Demonstrate an appreciation for aesthetics and creative activities.						
10. Describe how natural systems function and recognize the impact of humans on the environment						

Miami Dade College Learning Outcomes (continued)

MDC Learning Outcome	BAS-EET Upper Division Courses						
	EET 4732C Feedbk Ctrl Sys	EET 4165C Senior Design 1	EET 4166C Senior Design 2	EST 3543C PLCs	ETI 3671 Tech Econ Anal	ETI 3704 Safety Issues	ETI 4480C Applied Robotics
1. Communicate effectively using listening, speaking, reading, and writing skills		X			X		
2. Use quantitative analytical skills to evaluate and process numerical data.	X	X	X		X		X
3. Solve problems using critical and creative thinking and scientific reasoning.	X	X	X		X	X	X
4. Formulate strategies to locate, evaluate, and apply information					X	X	X
5. Demonstrate knowledge of diverse cultures, including global and historical perspectives							
6. Create strategies that can be used to fulfill personal, civic and social responsibilities							
7. Demonstrate knowledge of ethical thinking and its application to issues in society		X					
8. Use computer and emerging technologies effectively.	X	X	X	X	X		X
9. Demonstrate an appreciation for aesthetics and creative activities.	X						
10. Describe how natural systems function and recognize the impact of humans on the environment						X	

Appendix 9 Course Descriptions for Senior Institution Level Technology Core Courses

Bachelor of Applied Science with a major in Electronics Engineering Technology

Common Course Prefix/ Number	Course Title	Credits	Course Description
CET 3126C	Advanced Microprocessors	4	This is an upper division level course for students majoring in electronics engineering technology that presents an in-depth study of advanced (16-bit and 32-bit) microprocessors as they apply to embedded systems. Students learn standards relating to embedded design, hardware requirements, embedded processors, memory, I/O, and buses and software topics relating to embedded design including device drivers, embedded operating systems, middleware and application Software. Students apply this knowledge to the design, development, and testing of an embedded system. Prerequisite: CET 2123C. Laboratory fee. (2 hr lecture, 4 hr lab)
CET 4190C	Applied Digital Signal Processing	4	This is an upper division level course for students majoring in electronics engineering technology. Digital signal processing (DSP) is the study of signals in a digital representation and the processing methods of these signals. Students learn digital and analog signal processing, including how to convert between analog and digital forms, how to measure for filter signals, technologies used for digital signal processing including field-programmable gate arrays (FPGAs), digital signal controllers, and stream processors. Prerequisites: CET 3126C, EET4XXXC. Laboratory fee. (2 hr. lecture, 4 hr. lab)
EET 3158C	Linear Integrated Circuits and Devices	4	This is an upper division level course for students majoring in electronics engineering technology designed to provide students with practical skills and knowledge needed for the application of operational amplifiers, comparators, phase-locked loops, timers, regulators, other integrated circuits in electronic systems. Students learn to apply these skills towards the design of amplifiers, active filters, oscillators, differentiators, integrators and other miscellaneous integrated circuit based systems. Prerequisite: EET2101. Laboratory fee. (2 hr. lecture; 4 hr. lab)
EET 3XXX	Power Systems	3	This is an upper division level course for students majoring in electronics engineering technology covering specific issues of electrical power systems. Students learn about power factor, three phase

			circuits, and transformers. Prerequisite: EET1025C. (3 hr lecture)
EET 3716C	Advanced System Analysis	4	This is an upper division level course for students majoring in electronics engineering technology designed to prepare students to perform electrical circuit systems analysis using Laplace transforms and partial fraction expansion. Students learn theorems, Fourier series, frequency response and bode plots, and their application towards practical systems. Prerequisite: EET2101C. Co-requisite MAC2312. Laboratory fee. (2 hr. lecture, 4 hr. lab)
EET 4XXXC	Signals and Systems	4	This course is designed to cover the use of Fourier analysis in electrical and electronic systems and to be an introduction to probability theory, linear algebra, and complex variables. Students will learn how to apply convolution, Fourier transforms, Laplace, and z transforms to electrical signals and systems. Prerequisite: MAC2311.
EET 4732C	Feedback Control Systems	4	This course is designed to expose students to the analysis of networks and control systems. Students learn about stability and compensation considerations, using root locus, Nichols chart, and Bode plots; simulation techniques; and how to apply these principles to build and test control systems. Prerequisite: EET3158C. Laboratory fee. (1 hr. lecture; 4 hr. lab)
EET 4165C	Senior Design 1	3	This project-based course is designed to synthesize students' knowledge of the analysis, design, manufacturing, and testing of electronic systems. Students will design experiments, explore professional ethics, practice professional oral and written communications, conduct project feasibility studies, write proposals, employ system design methodology, and perform project scheduling. Students learn about human factors, intellectual property, and liability issues. Department approval required. Laboratory fee. (1 hr. lecture; 4 hr. lab)
EET 4166C	Senior Design 2	3	This is a capstone course for students completing the course of study for the baccalaureate in electronics engineering technology in which students demonstrate their knowledge and skills applicable to the degree program's core competencies and outcomes. The course is a project-based experience in which students apply all of the skills they have acquired to analyze, design, simulate, synthesize, and test a complete electronics/electrical system. Department approval required. Prerequisite: EET4165C. Laboratory fee. (1 hr. lecture, 4 hr. lab)

EST 3543C	Programmable Logic Controllers	4	This course is designed to provide students with the skills to design, operate, and test PLC systems. Students learn logic fundamentals, programming technologies, integrated circuits, and number systems as applied to PLC technology. Prerequisite: CET2123C. Laboratory fee. (2 hr. lecture; 4 hr. lab)
ETI 3671	Technical Economic Analysis	3	This course is designed to cover the formulation and application of analytical techniques to reach cost effective solutions to engineering problems. Students will learn time based analysis of selection, replacement, and lease-or-buy decisions including multiple alternatives, uncertainty, and sensitivity analysis, using a problem-solving approach. Prerequisite: MAC1105. (3 hr. lecture).
ETI 3704	Safety Issues in Electronics Engineering Technology	3	This course is designed to teach students principles of safety in typical industrial electronics and manufacturing environment. Emphasis will be placed on occupational safety and health act (OSHA) and Materials Safety Data Sheets (MSDS). Students will learn analysis and design of safety programs for industry. (3 hr. lecture)
ETI 4480C	Applied Robotics	4	This is an upper division level course designed as an introduction to robotics programming and includes robotic applications for multifunction part manipulation and motion with stepper and servo-motors. Students learn topics related to robotic design including robotic vision, motion planning, sensing and sensors, actuators, navigation systems, mobility, forward and inverse kinematics, and non-holonomic path planning. Laboratory activities provide hands-on application of concepts and theories. Prerequisite: CET3126C. Laboratory fee. (2 hr lecture, 4 hr lab)

Appendix 10 4-Year Advising Planning Sheet

PROGRAM NAME	Bachelor of Applied Science with a major in Electronics Engineering Technology
PROGRAM DESCRIPTION	• A workforce-driven baccalaureate degree in Electronics Engineering Technology designed to provide education and training, resulting in immediate employment possibilities for students in numerous careers in Engineering. This comprehensive curriculum emphasizes theory and applied practical knowledge and skills to enable students to be immediately productive in the workforce when they graduate.
ADMISSION REQUIREMENTS	• Students must have an earned AA or AS degree from a regionally accredited institution or completed a minimum of 60 credit hours with a cumulative grade point average of 2.0 and a minimum grade point average of 2.5 in all lower division engineering technology core courses. • Students must have a minimum of 28 lower division technology courses and must satisfy all course prerequisite requirements before being admitted into upper division level engineering technology core courses. • Students must complete MAC1105 and ENC1101 prior to being admitted into the senior level institution. The remaining thirteen (13) hours of general education, including the common course prerequisites are to be taken at the university level and include PHYX049/ X049L or PHY X054C(4), MAC X311 or equivalent; and other general education courses as determined by institutional requirements; and four (4) hours in MAC X312 or equivalent • Students must submit a completed Miami Dade College Admissions Application. Additional Information: Students entering with an AS or AAS degree may need additional General Education credits to meet the 36 General Education credits required for the baccalaureate degree. Students entering with an AA degree may need additional electives to provide appropriate background for the baccalaureate program.
COMPLETION REQUIREMENTS	• Minimum of 134 semester hours in specified coursework • Minimum cumulative grade point average of 2.0 • Minimum grade point average of 2.5 in the engineering major • Successful completion of a minimum of 30 semester hours of 3000-4000 level coursework at the senior institution level • Satisfactory completion the general education 36 credit hour requirements • Satisfactory completion of the Gordon Rule requirements • Satisfactory completion of the CLAST or waiver • Computer Competency: By the 16th earned college level credit (excluding EAP and college preparatory courses), a student must take the Computer Competency Test and pass • By the 31st earned college level credit (excluding EAP and college preparatory courses), a student must pass CGS 1060, an equivalent continuing education or vocational credit course or retest with a passing score on the Computer Competency Test. • Foreign Language: Students admitted to the baccalaureate degree program without meeting the foreign language admission requirement of at least 2 courses (6 - 8 credit hours) of sequential foreign language at the secondary level or the equivalent of such instruction at the postsecondary level must earn such credits prior to graduation. Students should check their individualized Degree Audit Report to determine the specific graduation policies in effect for their program of study for the year

	and term they entered Miami Dade. This outline includes current graduation requirements. The final responsibility for meeting graduation requirements rests with the student.

- **Bachelor of Applied Science with a major in Electronics Engineering Technology**

C.I.P. 15.0303

Sample Course Sequence

Note: *Depending upon the student's associate degree, some lower division credits may be substituted for upper division electives; all students must, however, complete a minimum of 30 credits at the 3000 – 4000 level to meet baccalaureate degree requirements. Note: A course may only be used to fulfill one program requirement.*

YEAR 1		
Fall Semester - 14 credits		
Course Number	**Description**	**Credits**
EET 1015C	Direct Current Circuits	4
CET2114C	Digital Computer Circuit Analysis 1	4
ENC 1101	English Composition 1	3
MAC 1105	College Algebra	3
Spring Semester - 14 credits		
EET 1025C	Alternating Current Circuits	4
EET 1141C	Electronics I	4
MAC 1140	Pre-Calculus Algebra	3
CLP 1006	Psychology of Personal Effectiveness	3
Summer Semester - 14 credits		
EET 2101C	Electronics II	4
MAC1114	Trigonometry	3
CET 2142C	Advanced Digital Circuits	4
PHI 2604	Critical Thinking/Ethics	3

YEAR 2		
Fall Semester - 14 credits		
EET 2305C	Electronic Communications 1 - Analog	4
CGS 2423C	"C" for Engineers**	4
SPC 1026	Fundamentals of Speech Communications	3
ECO 2013	Principles of Economics (Macro)	3
Spring Semester - 12 credits		
CET 2123C	Microprocessors	4
EET 2351C	Electronic Communications 2 – Digital	4
PHY 2053	Physics without Calculus	3
PHY 2053L	Physics w/o Calculus 1 Lab	1

YEAR 3		
Fall Semester - 12 credits		
Course Number	**Description**	**Credits**
MAC 2311	Calculus and Analytical Geometry 1	5
PHY 2054	Physics w/o Calculus 2	3
PHY 2054L	Physics w/o Calculus 2 Lab	1
ENC 1102	English Composition 2	3
Spring Semester - 12 credits		
CET 3126C	Advanced Microprocessors	4
MAC 2312	Calculus and Analytical Geometry 2	4
EST 3543C	Programmable Logic Controllers	4
Summer Semester - 12 credits		
EET 3158C	Linear Integrated Circuits and Devices	4
CET 4190C	Applied Digital Signal Processing	4
EET 3716C	Advanced System Analysis	4

YEAR 4		
Fall Semester - 16 credits		
ETI 4480C	Applied Robotics	4
ETI 3704	Safety Issues in Electronics Engineering Technology	3
EET 3XXX	Power Systems	3
ETI3671	Technical Economic Analysis	3
EET 4165CC	Senior Design 1	3
Spring Semester - 14 credits		
EET 4732C	Feedback Control Systems	4
EET 4XXXC	Signals and Systems	4
PHI2010	Introduction to Philosophy	3
EET 4166CC	Senior Design 2	3

Appendix 11 Laboratory Equipment Summary

BAS EET Laboratory Equipment Costs Summary

Break down of Cost by Lab (each lab would have 24 stations):

In order to satisfy the needs of the BAS EET program, three additional labs would be needed.

Lab 1: Circuits and Analog Electronics Lab:	
24 Units of the NI ELVIS Circuit Bundle	$ 73,560.00
24 Apple IMAC running both windows and OSX	$ 33,576.00
Lab 2: Microprocessor, Robotics, and Digital Electronics Lab:	
12 Units of the NI ELVIS Circuit Bundle	$ 36,780.00
12 Units of the NI ELVIS Microprocessor Bundle	$ 36,780.00
24 Apple IMAC running both windows and OSX	$ 33,576.00
Lab 3: DSP, Control Systems, and Power Lab	
24 Units of the Analog Devices Blackfin EZ-KIT Lite	$ 8,400.00
24 Units of the PLC Development Boards	$ 15,600.00
24 Apple IMAC running both windows and OSX	$ 33,576.00
Miscellaneous Power Equipment	$ 6,793.00
Total:	$ 278,641.00

Appendix 12 Miami Dade College Program Review Process

MDC academic programs are to be reviewed on a five year cycle. Each program review will address five areas:

1. Program goals and rationale
2. Outcomes assessment
3. Program resources and support
4. Program strengths/opportunities for improvement
5. Program viability

A Program Review Questionnaire will be completed by the program chair in consultation with the program's faculty, school/discipline committee, and advisory committee to determine the program's effectiveness. The Office of Institutional Research will maintain a website with information to be used in the questionnaire and will assist in obtaining other required information.

The Program Review Questionnaire is to be compiled and reviewed in the following timely manner.

Program Review Timeline

Schedule	Program Review Action
Year 1 March	Associate Provost for Academic Affairs forwards program review schedule to Academic Deans and CASSC.
April June	Academic Dean submits Program Review Questionnaire to School Director/Chair/Program Director who assigns to the program chair for completion. Academic Dean and School Director consult on approaches to complete questionnaire.
July December	Program chair completes questionnaire in collaboration with program faculty, School/Discipline/Program Committee, and Advisory Committee and submits completed questionnaire to School Director. The School Director reviews and forwards completed questionnaire to the Academic Dean.
Year 2 January - February	Academic Dean reviews completed questionnaire with School Director/Associate Dean and program chair and makes recommendations concerning program's strengths, opportunities for improvement, resources, and viability to the Academic Deans. Academic Dean forwards recommendations to respective Campus President.
March - April	Campus President in consultation with the Academic Dean provides summary of the program's strengths, opportunities for improvement and viability to the Provost for Academic and Student Affairs who will confer with the Associate Provost for Academic Affairs and the Associate Provost for Institutional Effectiveness. The Provost for Academic and Student Affairs will also confer with the President and the Provost for Operations regarding strategic planning, program development, and institutional budget and

	resource implications. Decisions regarding program revisions and viability are made following these discussions and communicated back to the Campus President and Academic Dean who will inform the School Director/Associate Dean and Program Chair.
May - June	Curricular/Program revisions based on feedback from the program review submitted by the program chair are sent to the Academic Dean.
April	Program review information and decisions will be included in the School's annual report submitted by the School Director to the Academic Dean and the respective Campus President. A final approved Annual Report is submitted to the Associate Provost for Institutional Effectiveness.
September December	Academic Deans provide a report to CASSC on program review results and the use of those results in program improvement.

Evaluation of Program Review Process

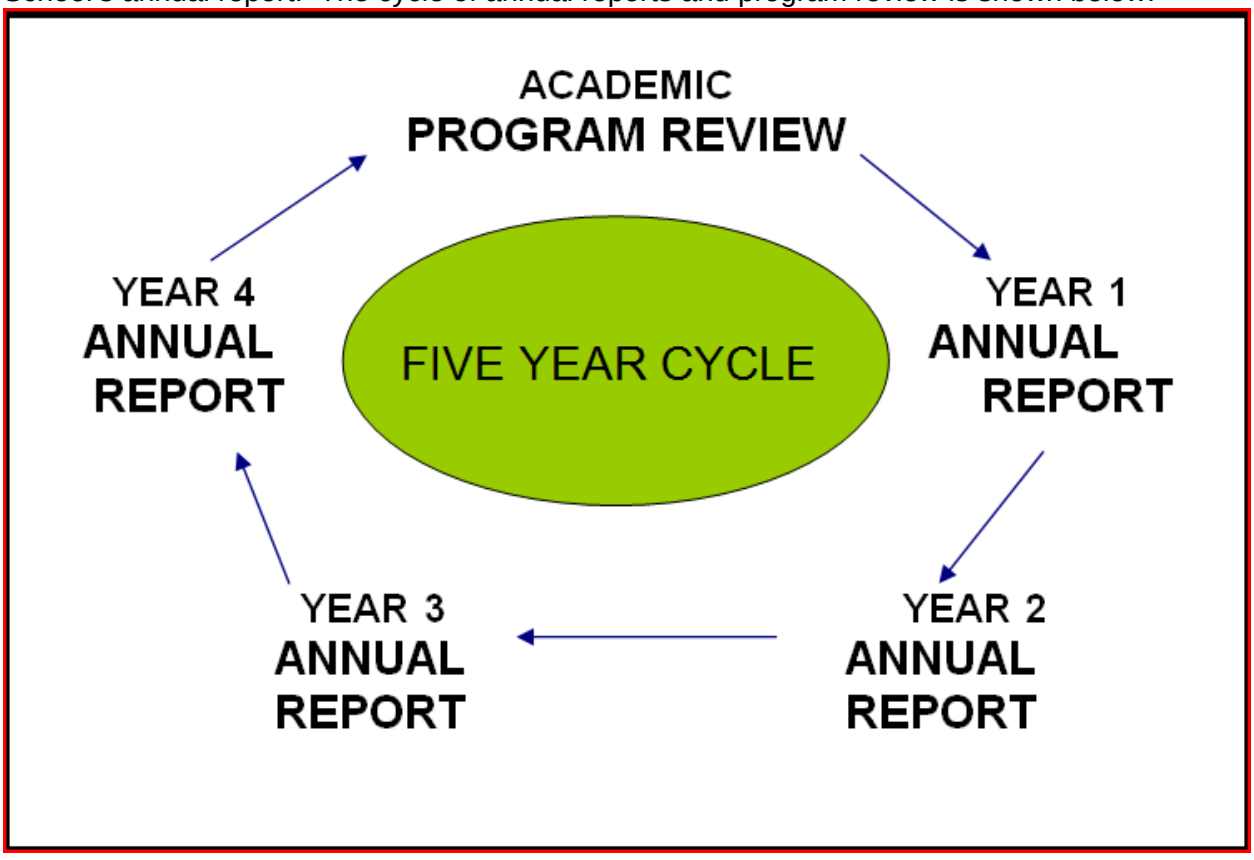
The program review process will be evaluated every five years by the CASSC Institutional Effectiveness Committee to determine its strengths and opportunities for continuous improvement. The Institutional Effectiveness Committee will also provide a report to CASSC on recommendations to improve the process. The table below outlines responsibilities for various aspects of the program review process.

Committee/Person Responsible	**Responsibility (Frequency)**
CASSC Institutional Effectiveness Committee/Associate Provost for Institutional Effectiveness	Evaluate effectiveness of program review process and report to CASSC (Every five years)
CASSC	Curricular/Program revisions; Receives program review results report from Academic Dean (Annually)
Program Chair	Completes Program Review Questionnaire (Every five years)
Program Faculty	Contribute to Program Review Questionnaire (Every five years)
Associate Provost for Academic Affairs	Forward Program Review Schedule to Academic Deans. Review of Program Review Recommendations (Annually)
Associate Provost for Institutional Effectiveness	Review of Program Review Recommendations (Annually)
School Directors/ Directors/Associate Deans	Distribute Program Review Questionnaire; Assist with and review questionnaire and recommendations for program's strengths, opportunities for improvement and viability (Annually)
Academic Deans	Distribute Program Review Questionnaire; Review of completed questionnaire and recommendations for program's strengths, opportunities for improvement, and viability; Provide program review report for information to CASSC (Annually)

Campus Presidents	Summary of program's strengths, opportunities for continuous improvement, viability, and the use of results for improvement. (Annually)
Provost for Academic and Student Affairs	Review Campus Presidents' summaries of program's strengths, opportunities for continuous improvement, viability, and the use of results for improvement. (Annually)
Provost for Academic and Student Affairs/Provost for Operations	Review of programs' review summaries for strategic planning, program development, budgetary, and resource allocation implications. (Annually)
College President	Considers program review summaries in context of strategic planning, program development and College budget and resource allocations and sets priorities based on these. (Annually)

Relationship between School Annual Reports and Program Review

An annual report is provided by each School to the Academic Deans, the Coordinating Campus President, and the Associate Provost for Institutional Effectiveness and is a formative assessment of the program. Outcome data, program development activities, and other information included in these annual reports will be considered when the program director in consultation with the program faculty, School/Discipline Committee, and Advisory Committee, complete the Program Review Questionnaire. During the year of the program review, questionnaire and resulting recommendations will constitute the program's contribution to the School's annual report. The cycle of annual reports and program review is shown below.



Appendix 13 Miami Dade College Engineering Department Core Faculty

NAME	MOST ADVANCED DEGREE	INSTITUTION
Miguel Alonso	Ph.D., Electrical Engineering	Florida International University
Danmary Albertini	Ph.D., Electrical Engineering	Florida International University
Ying Song	Ph.D., Electrical and Computer Engineering	Duke University
Ian Davis	MS Electrical Engineering	University of London

Appendix 14 Enrollment, Performance, and Budget Plan

FLORIDA COMMUNITY COLLEGE SYSTEM
2009-10 PROJECTED OPERATING BUDGET REQUEST
BACCALAUREATE DEGREE GRANTS
ENROLLMENT, PERFORMANCE AND BUDGET PLAN

COLLEGE NAME: MIAMI DADE COLLEGE E. H. LEVERING

DEGREE NAME: Electronics Engineering Technology

	PROJECTED	PROJECTED	PROJECTED	PROJECTED
I. PLANNED STUDENT ENROLLMENT	**2009-10**	**2010-11**	**2011-12**	**2012-13**
A. Student Headcount	24	42	80	90
B. Upper Division Student Credit Hours Generated - **(Resident)**	288	756	1,620	1,823
Upper Division Student Credit Hours Generated - **(Nonresident)**	0	0	0	0
Upper Division Total Student Credit Hours Generated - **(Resident and Nonresident)**	288	756	1,620	1,823
C. Upper Division Student FTE (30 Credit Hours) - **(Resident)**	10	25	54	61
Upper Division Student FTE (30 Credit Hours) - **(Nonresident)**	0	0	0	0
Upper Division Student FTE (30 Credit Hours) - **(Resident and Nonresident)**	10	25	54	61
II. PLANNED PERFORMANCE	**2009-10**	**2010-11**	**2011-12**	**2012-13**
A. Number of Degrees Awarded	0	0	15	35
B. Number of Placements	0	0	15	35
C. Projected Annual Starting Salary	0	0	58,000	59,740
III. ACTUAL, ESTIMATED AND PROJECTED PROGRAM EXPENDITURES	**2009-10**	**2010-11**	**2011-12**	**2012-13**
INSTRUCTIONAL				
1. Faculty Full-Time FTE	0	1	1	1
2. Faculty Part-Time FTE	2	0	2	2
1. Faculty Full-Time Salaries/Benefits	0	73,233	76,895	79,201
2. Faculty Part-Time Salaries/Benefits	10,000	0	10,000	12,000
3. Faculty Support: Lab Assistants, etc	11,520	23,040	28,000	30,000
OPERATING EXPENSES				
1. Academic Administration	39,891	82,175	84,640	87,180
2. Materials/Supplies	5,750	6,000	7,000	8,000
3. Travel	4,000	5,000	6,000	6,000
4. Communication/Technology	45,000	16,000	3,494	4,000
5. Library Support	5,000	8,000	10,000	11,000
6. Student Services Support	20,781	21,404	22,047	22,708
7. Professional Services	15,000	10,000	10,000	10,000
8. Accreditation	0	4,082	5,000	5,000
9. Support Services	16,952	17,461	19,107	19,680
CAPITAL OUTLAY				
1. Library Resources	80,500	82,750	5,000	5,000
2. Information Technology Equipment	25,000	28,000	8,000	8,000
3. Other Equipment	142,000	131,918	4,723	4,723
4. Facilities/Renovation	60,000	20,000	10,000	10,000
TOTAL ACTUAL, ESTIMATED AND PROJECTED PROGRAM EXPENDITURES	**481,394**	**529,063**	**309,906**	**322,492**
IV. NATURE OF EXPENDITURES				
1. Recurring	279,394	377,145	295,183	307,769
2. Non-recurring	202,000	151,918	14,723	14,723
TOTAL	**481,394**	**529,063**	**309,906**	**322,492**
V. SOURCES OF FUNDS				
A. REVENUE				
1. Baccalaureate Degree Grants	35,107	92,156	197,478	222,224
2. College Operating Budget	0	0	0	0
3. Resident Student Fees	19,987	52,466	112,428	126,516
Nonresident Student Fees	0	0	0	0
4. Federal Funds	0	0	0	0
5. Contributions or Matching Grants	0	0	0	0
6. Other Grants or Revenues	426,299	384,440	0	0
7. Special State Nonrecurring	0	0	0	0
B. CARRY FORWARD	**0**	**0**	**0**	0
TOTAL FUNDS AVAILABLE	**481,394**	**529,063**	**309,906**	**348,740**
TOTAL UNEXPENDED FUNDS (CARRY FORWARD)	**0**	**0**	**0**	**26,248**
UPPER DIVISION EXPENDITURES PER TOTAL CREDIT HOUR - **(RESIDENT AND NONRESIDENT)**	1,672	700	191	177
UPPER DIVISION EXPENDITURES PER FTE (30 CREDIT HOUR)	50,145	20,995	5,739	5,307
UPPER DIVISION STATE REVENUE PER CREDIT HOUR - **(RESIDENT)**	122	122	122	122
UPPER DIVISION STATE REVENUE PER FTE (30 CREDIT HOUR)	3,657	3,657	3,657	3,657

NOTE: STATE REVENUE IS LIMITED TO A MAXIMUM OF $3,657 PER FTE FOR FISCAL YEAR 2008-09.

https://spsd.mdc.edu/cwc/baseet/Shared Documents/Resubmitted Revisions to State/BAS EET Enrollment Performance Budget Plan 11192008 with totals 12/15/2008, 11:16 AM

Appendix 15 Minutes of Planning Meetings

Bachelor of Applied Science with a major in Electronics Engineering Technology
May 31, 2007
Planning Meeting Minutes

Attendees

Dr. Rolando Montoya	President - Wolfson Campus
Dr. Lourdes Oroza	Dean, Academic Affairs, Wolfson Campus
Dr. Richard White	Director, School of Computer and Engineering Technologies
Dr. Diane King	Director, Curriculum Development, SCET
Mark Mawlawi	Chair, Department of Engineering

Topics Discussed:

1. Market Research. Participants discussed initial and further research required to justify the program, including:
   - industry demand and projections for job placements
   - student enrollment and recruitment
   - industry, student, and graduate research (surveys and focus groups)

2. Project Schedule.
Participants reviewed the development, approval, and implementation timelines and milestones.

3. Curriculum Development
An industry focus group met on May 15, 2007 and identified job tasks, skills, and knowledge. At a follow up meeting on May 16, curriculum specialists, Jerry Lancio and Dr. King, Mark Mawlawi, the department chair, and Ian Davis, engineering faculty member, met to develop a course plan and identify individual courses for the upper division program.

3. Organize Working Committee. The following individuals will form the core of the project working committee:

Dr. Richard White
Dr. Diane King
Mark Mawlawi
Dr. Mollie DeHart
Dr. Oroza
Dr. Montoya
Dr. Joanne Bashford
Ian Davis

4. The Working Committee will meet on Thursday, June 7.

Bachelor of Applied Science with a major in Electronics Engineering Technology
June 7, 2007
Planning Meeting - Agenda

Attendees

Dr. Joanne Bashford	Associate Provost, Institutional Research (IR)
Dr. Mollie DeHart	District Director, Academic Programs
Robert (Ian) Davis	Faculty, Department of Engineering
Dr. Diane King	Director, Curriculum Development, School of Computer and Engineering Technologies (SCET)
Mark Mawlawi	Chair, Department of Engineering, SCET
Dr. Richard White	Director, SCET

Agenda

Review schedule
Identify tasks for feasibility study
Assign responsibilities for feasibility study tasks

Dr. King is serving as the project manager and key contact. She gave committee members an overview of the project. The first step is to organize and conduct a feasibility study. Surveys will be developed and disseminated among existing students, graduates, and key employers.

Dr. DeHart briefed the committee on what the state and College requirements are for new degree program proposals and made recommendations on how to proceed. She charged the entire committee with reading and becoming familiar with College Procedure 8150 as well as the proposals for the baccalaureate degrees in Public Safety Management and Nursing.

The committee identified specific tasks, individual with the primary responsibility for specific tasks, and timeframes for the feasibility study, including student, industry, and graduate surveys, the labor market research, and student demographics. See the table below.

The next committee meeting is scheduled for August 7, 2007 from 1:30 – 3:00 pm in Room 7166, the ETCOTA Conference Room. The purpose of this meeting is to review and discuss the results of the student, graduate, and industry surveys and the feasibility study research.

Tasks for Feasibility Study for a Baccalaureate Degree in Electronics Engineering Technology

Task	Individual Responsible	Due Date
Read MDC College Procedure 8150	Committee members	
Read BAS –Public Safety Management proposal	Committee members	
Read BS – Nursing proposal	Committee members	
Identify program codes and specific course numbers required to identify current students for the Student Survey and Graduate Survey Provide information to Institutional Research	M. Mawlawi	6/11/2007
Identify specific employers (company and contact information) for industry survey	M. Mawlawi	6/11/2007
Provide suggested survey questions to Institutional Research	M. Mawlawi	6/13/2007
Identify contacts at FIU, UM, and other institutions with whom to discuss collaboration efforts – Submit information to Dr. White	M. Mawlawi	6/15/2007
Identify CIP code for proposed degree	M. DeHart	6/22/2007
Identify existing state and national degree program	M. Mawlawi	6/22/2007
Draft survey questions	J. Bashford	6/22/2007
Document employment statistics and workforce projections from the State of Florida Labor Market Statistics for Region 23 specifically and the entire State of Florida in general, Beacon Council, Chamber of Commerce, South Florida Manufacturers Association, other local trade and industry groups, etc.	M. Mawlawi	6/22/2007
Review survey questions and provide feedback to IR	I. Davis, M. Mawlawi, D. King, R. White	6/27/2007
Research and document if any industry certifications are applicable (ABET, ASCET, etc.)	I. Davis	6/29/2007
Disseminate surveys	Institutional Research (J. Bashford)	7/6/2007
Identify and document relevant statistics and demographics from MDC EIS system Submit to Dr. King	M. Mawlawi	7/6/2007
Compile “boilerplate” from PSM and Nursing proposals Submit electronically to Dr. King	M. Mawlawi	7/9/2007
Analyze results of survey responses Submit to committee for review	J. Bashford	8/6/2007

Bachelor of Applied Science with a major in Electronics Engineering Technology
September 18, 2007
Minutes

Attendees

Dr. Lourdes Oroza	Dean, Academic Affairs
Dr. Richard White	Director, SCET
Dr. Mollie DeHart	District Director, Academic Programs
Dr. Diane King	Director, Curriculum Development, SCET
Mark Mawlawi	Chair, Department of Engineering, SCET

Dr. King provided an update of the project status:

- She, Mark Mawlawi, and Dr. Ying Song are working on a proposal draft which will be ready for a first review by September 28.
- Drafts of competencies have been written for courses which were identified and defined at the DACUM in May.

Dr. DeHart updated the committee on the tentative timeline for submissions of the Executive Summary (approximately January 15, 2008) and Letter of Intent (approximately June 1, 2008).

Task	Individual Responsible	Due Date
Meet with facilities(North) for budget input to proposal	M. Mawlawi, R. White	9/21/2007
Meet with facilities Student Services(Wolfson) for budget input to proposal	M. Mawlawi	9/21/2007
Meet with EET faculty to work on curriculum	M. Mawlawi, D. King, R. Davis, M. Alonso	9/24/2007
Submit first draft of proposal to Dr. Oroza and Dr. DeHart	M. Mawlawi, D. King, Y. Song	9/28/2007

The next committee meeting is scheduled for October 17, 2007 from 1:00 – 3:00 pm in Dr. Oroza's office.

Bachelor of Applied Science with a major in Electronics Engineering Technology

Minutes

November 12, 2007

Attendees

Dr. Lourdes Oroza	Dean, Academic Affairs
Dr. Richard White	Director, SCET
Dr. Diane King	Director, Curriculum Development, SCET

Dr. King presented an update of the project status:

- The Executive Summary draft was submitted for review to Dr. Oroza on November 5 who forwarded it to Dr. Montoya.
- The draft of the curriculum has been developed by the Engineering faculty, led by Dr. Miguel Alonso, for review and feedback.

Dr. Oroza will follow up with Dr. Montoya regarding his feedback on the Executive Summary.
Dr. Oroza requested that Dr. King schedule a meeting with Dr. DeHart for a first review of the curriculum. Based on the results of this meeting, the larger committee will meet to discuss curriculum issues.

Bachelor of Applied Science with a major in Electronics Engineering Technology

Minutes

November 28, 2007

Attendees

Dr. Mollie DeHart	District Director, Academic Programs
Dr. Diane King	Director, Curriculum Development, SCET
Dr. Miguel Alonso	Faculty, Department of Engineering, SCET

Prior to this meeting:

- Dr. Montoya submitted feedback to the Executive Summary on November 20, 2007, approving it with minor corrections.
- Drafts of the Executive Summary and preliminary curriculum were sent to Dr. DeHart.
- Dr. Pamela Menke, Associate Provost Academic Affairs, submitted feedback to the Executive Summary indicating necessary changes on November 26, 2007.

At the meeting, Dr. DeHart provided marked up copies of the curriculum and Executive Summary with her and Dr. Menke's comments.

1. The curriculum as presented in the draft does not address the requirements for students entering the proposed BAS program with an associate in arts degree; it only addresses students matriculating with the associate in science degree. She advised the Engineering Department to identify the minimum entrance requirements for all students, regardless of whether they are AA or AS graduates.

2. Dr. DeHart also pointed out that there are 9 additional elective credits, which are required for the computer competency and foreign language requirements as part of the baccalaureate degree. These credits have not been included in the draft curriculum for the BAS EET. The requirement is two foreign language courses. While 9 credits are required, each foreign language course is typically 4 credit hours and the course that satisfies the computer competency requirement, CGS1060, is also 4 credits, so a student entering the program without any of these requirements previously fulfilled will actually need to take 12 credits, not 9.

Bachelor of Applied Science with a major in Electronics Engineering Technology
Minutes – EET Discipline Committee
November 28, 2007

Attendees

Dr. Diane King	Director, Curriculum Development, SCET
Dr. Miguel Alonso	Faculty, Department of Engineering, SCET
Mark Mawlawi	Chair, Department of Engineering, SCET
Robert (Ian) Davis	Faculty, Department of Engineering, SCET
Saeed Shaikh	Faculty, Department of Engineering, SCET

Dr. King and Dr. Alonso presented Dr. DeHart's feedback to the curriculum draft to the faculty members. The faculty requested clarification on several points. Dr. King sent an email to Dr. DeHart requesting clarification.

The faculty's response is that AA students entering the BAS program will have satisfied the General Education requirements and, upon clarification from Dr. DeHart, may be able to take a core of electronics engineering courses as part of the 24-hour elective block as indicated on the Associate in Arts program sheets posted on the MDC website.

The Engineering faculties members suggest that only 60 credits are accepted from the associate's degrees, discounting the 8 elective credits that are part of the 68-hour Associate in Science degree.

Bachelor of Applied Science with a major in Electronics Engineering Technology
Minutes
January 22, 2008
Updated January 24, 2008

Attendees

Dr. Miguel Alonso
Professor Ian Davis
Dr. Diane King
Mark Mawlawi

The faculty agreed on the upper division entrance requirements:

-- AA/AS or 60 hours lower division
-- 28 lower division (major) requirements in electronics engineering technology
-- MAC1105 and ENC1101
--MDC computer competency and foreign language requirements met
-- CLAST exam unless waived, see http://www.mdc.edu/testing_information/CPT_CLAST/97-255.pdf)
-- GPA of 2.5 in lower division electronics engineering technology courses and 2.0 cumulative GPA in general education courses

Dr. Alonso and Professor Davis discussed writing competencies for the upper division major core requirement courses. They will research existing curricula and textbooks and be the primary developer for the courses indicated in the table below. They will forward their list of textbooks and Dr. King will order the books for reference.

Dr. King will contact Professor Shaikh to identify TBD courses for which he will be the primary developer.

Course	Primary Developer	Comments
EET3716 Advanced System Analysis	Ian Davis	
EET3541 Power Systems 1	Ian Davis	
EET 4136 Signals and Systems	Miguel Alonso	
CET 3126C Advanced Microprocessors	Miguel Alonso	
CET4190C Applied Digital Signal Processing	Miguel Alonso	
ETI 4480C Applied Robotics Lab	Miguel Alonso	
EET 3158C Linear Integrated Circuits and Devices	Saeed Shaikh	

EET 4732C Feedback Control Systems	Saeed Shaikh	
ETI 3671 Technical Economic Analysis	Saeed Shaikh	
EST3543C Programmable Logic Controllers	TBD	Check existing EST2542C and EST2544C to determined if courses may be stacked[1]
EST3704 Safety Issues in Electronics Engineering Technology	TBD	Reference ETI1701[1]
EET4938 Senior Design 1	All EET faculty	
EET4939 Senior Design 2	All EET faculty	

Written competencies on CASSC Form 112 are due to Dr. King by EOB February 15, 2008 or sooner. Faculty will submit drafts as they are completed.

[1] Existing EET competencies are posted at www.scet.mdc.edu/courses/Engineering

Appendix 16 MDC SCET Engineering Advisory Committee

Mr. Jaime A. Borras	Motorola Senior Fellow Motorola	8000 W Sunrise Blvd. Fort Lauderdale, FL 33322
Mr. William J. Burrows	Maintenance Technical Department Head FP&L	Turkey Point Nuclear Station 9760 S.W. 344 Street Florida City, FL 33035
Ms. Cristina M. Gonzalez	Principal Langan Engineering & Environmental Services	Parkside Corporate Center 15150 NW 79th Ct., Suite 200 Miami Lakes, FL 33016
Mr. Damaso Gonzalez	Project Manager AT&T	9101 SW 24 Street Miami, FL 33165
Mr. Alfred Lurigados	Director of Engineering Miami-Dade Expressway Authority	3790 N.W. 21street, Miami FL 33142
Dr. John Riley	Group Manager of Software Engineering, Beckman Coulter Inc.	11800 S.W. 147 Avenue Mail Code 21-A05 Miami, FL 33196
Mr. Darrell D. Roberts	Manager, Technical Operations Services, Federal Aviation Administration (FAA)	P.O. Box 52-2925 Miami, FL 33152
Ms. Jane Teague	Executive Director Enterprise Development Corp.	3701 FAU Blvd. Suite 210, Boca Raton, FL 33431
Mr. Joseph Yesbeck	Vice President Jacobs Carter Burgess	80 S.W. 8th Street Suite 1915 Miami, FL 33130

Appendix 17 Letters of Intent to Local Institutions

300 N.E. Second Avenue
Miami, Florida 33132-2297

Miami Dade College

Eduardo J. Padrón
College President
(305) 237-3004 FAX: (305) 237-3146
email: epadron@mdc.edu

May 16, 2008

Dr. Eric J. Smith
Commissioner
Florida Department of Education
325 W. Gaines Street, Suite 1514
Tallahassee, FL 32399

Dear Dr. Smith,

The Miami Dade College District Board of Trustees, during their March 18 and April 15, 2008 meetings, approved the submission of a Letter of Intent for the following baccalaureate degree program proposals to be submitted by September 1, 2008 to the Department of Education:

- Bachelor of Applied Science with a major in Electronics Engineering Technology
- Bachelor of Applied Science with a major in Film, Television, and Digital Production
- Bachelor of Applied Science with a major in Supervision and Management
- Bachelor of Applied Science with a major in Health Science with an option in Physician Assistant Studies

One of Miami Dade College's strategic goals is to serve the community through educational programming and partner with the community to respond to needs. This strategic goal has been accomplished in part through the establishment of baccalaureate programs in education, public safety management, and nursing.

The proposals for the above baccalaureate degree programs are in response to the workforce shortages in Miami-Dade County (Region 23). Each proposal addresses the demand for baccalaureate degrees in the related targeted workforce occupations and provides a plan to implement the program in a cost effective manner. Miami Dade College believes these degree programs will provide needed low cost educational opportunities to Miami-Dade County citizens.

I look forward to submitting the proposal to you on September 1, 2008, with the approval of the Miami Dade College District Board of Trustees. Your consideration is appreciated.

Sincerely,

Eduardo J. Padrón

cc: Dr. Willis N. Holcombe, Chancellor ✓
Dr. Rolando Montoya
Dr. José Vicente
Dr. Gregory Gray
Dr. Anita Kaplan
Dr. Norma Martin Goonen

300 N.E. Second Avenue
Miami, Florida 33132-2297

Miami Dade College

Dr. Norma Martin Goonen
Provost for Academic and Student Affairs
(305) 237-3803 FAX: (305) 237-7176
email: ngoonen@mdc.edu

July 15, 2008

Dr. Thomas J. LeBlanc
Executive VP & Provost
University of Miami
1252 Memorial Drive
Ashe Administration Building, Room 240
Coral Gables, Florida 33146

Dear Dr. LeBlanc:

In accord with the approval process adopted by the Florida State Board of Education, Miami Dade College is notifying local higher education institutions regarding its intent to submit the following baccalaureate program proposals to the State Board:

- Bachelor of Applied Science with a major in Electronics Engineering Technology
- Bachelor of Applied Science with a major in Film, Television, and Digital Production
- Bachelor of Applied Science with a major in Supervision and Management
- Bachelor of Applied Science with a major in Health Science with an option in Physician Assistant Studies

The proposals for the above programs are in response to the workforce shortages in Miami-Dade County (Region 23). Each provides a seamless educational pathway for associate degree graduates, particularly those graduates with associate of science degrees, to earn a baccalaureate degree for improved career opportunities and advancement. Each program combines theoretical and practical applications and provides its graduates the skills requested and required by industry. The Executive Summary and proposed curriculum for programs that may be of particular interest to your institution are enclosed.

Should you wish additional information or would be interested in discussing any of these programs, please contact me at 305-237-3872 or by email at ngoonen@mdc.edu.

Sincerely,

Norma Martin Goohen, Ed.D.
Provost, Academic and Student Affairs

Enclosures

cc: Donna E. Shalala, PhD

300 N.E. Second Avenue
Miami, Florida 33132-2297

Miami Dade College

Dr. Norma Martin Goonen
Provost for Academic and Student Affairs
(305) 237-3803 FAX: (305) 237-7176
email: ngoonen@mdc.edu

July 15, 2008

Dr. Gregory S. Chan
Provost/Chief Academic Officer
St. Thomas University
16401 NW 37th Avenue
Miami Gardens, Florida 33054

Dear Dr. Chan: Gregory -

In accord with the approval process adopted by the Florida State Board of Education, Miami Dade College is notifying local higher education institutions regarding its intent to submit the following baccalaureate program proposals to the State Board:

- Bachelor of Applied Science with a major in Electronics Engineering Technology
- Bachelor of Applied Science with a major in Film, Television, and Digital Production
- Bachelor of Applied Science with a major in Supervision and Management
- Bachelor of Applied Science with a major in Health Science with an option in Physician Assistant Studies

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Should you wish additional information or would be interested in discussing any of these programs, please contact me at 305-237-3872 or by email at ngoonen@mdc.edu.

Sincerely,

Norma Martin Goonen, Ed.D.
Provost, Academic and Student Affairs

Enclosures

cc: Rev. Monsignor Franklyn M. Casale

300 N.E. Second Avenue
Miami, Florida 33132-2297

Miami Dade College

Dr. Norma Martin Goonen
Provost for Academic and Student Affairs
(305) 237-3803 FAX: (305) 237-7176
email: ngoonen@mdc.edu

July 15, 2008

Dr. Thomas J. LeBlanc
Executive VP & Provost
University of Miami
1252 Memorial Drive
Ashe Administration Building, Room 240
Coral Gables, Florida 33146

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Should you wish additional information or would be interested in discussing any of these programs, please contact me at 305-237-3872 or by email at ngoonen@mdc.edu.

Sincerely,

Norma Martin Goonen, Ed.D.
Provost, Academic and Student Affairs

Enclosures

cc: Donna E. Shalala, PhD

300 N.E. Second Avenue
Miami, Florida 33132-2297

Miami Dade College

Dr. Norma Martin Goonen
Provost for Academic and Student Affairs
(305) 237-3803 FAX (305) 237-7176
email: ngoonen@mdc.edu

July 15, 2008

Dr. Ronald Berkman
Executive VP & Provost
Florida International University
1050 SW 112th Avenue
University Park, PC 526
Miami, Florida 33199

Dear Dr. Berkman:

In accord with the approval process adopted by the Florida State Board of Education, Miami Dade College is notifying local higher education institutions regarding its intent to submit the following baccalaureate program proposals to the State Board:

- Bachelor of Applied Science with a major in Electronics Engineering Technology
- Bachelor of Applied Science with a major in Film, Television, and Digital Production
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- Bachelor of Applied Science with a major in Health Science with an option in Physician Assistant Studies

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Should you wish additional information or would be interested in discussing any of these programs, please contact me at 305-237-3872 or by email at ngoonen@mdc.edu.

Sincerely,

Norma Martin Goonen, Ed.D.
Provost, Academic and Student Affairs

Enclosures

cc: Modesto A. Maidique, PhD