Engineering Technology - AS

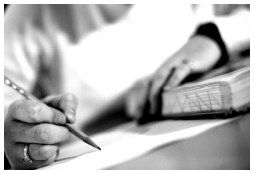
Enhanced Comprehensive Academic Program Review 2017-18

Associate in Science Degrees:
Engineering Technology
Biomedical Engineering Technology

Certificates:
Computer-Aided Design and Drafting
Engineering Technology Support
Lean Six-Sigma Green Belt
Medical Quality Systems
Rapid Prototyping and Design
Six Sigma Black Belt

Academic Effectiveness and Assessment
St. Petersburg College

February 2018



Department of Institutional Research and Effectiveness
St. Petersburg College
P.O. Box 13489
St. Petersburg, FL 33733
(727) 712-5237
FAX (727) 712-5411

Enhanced Comprehensive Academic Program Review Produced by

Engineering Technology – AS Program

Lara Sharp
Program Director, Clearwater

Natavia Middleton, Ph.D.
Dean, Department of Engineering and Building Arts

Department of Academic Effectiveness and Assessment

Robert Mohr, M.A.
Research Specialist, Academic Effectiveness and Assessment

Joseph Boyd, M.A.
Assessment Coordinator, *Academic Effectiveness and Assessment*

Magaly Tymms, M.A.
Director, Academic Effectiveness and Assessment

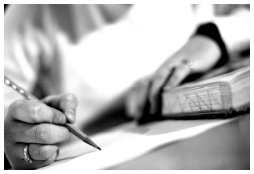
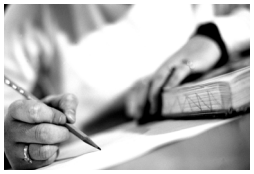
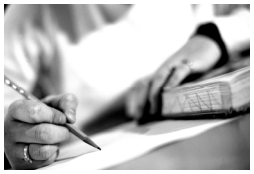


Table of Contents





Executive Summary

Introduction

The program review process at St. Petersburg College (SPC) is a collaborative effort designed to continuously measure and improve the quality of educational services provided to the community.

Program Description

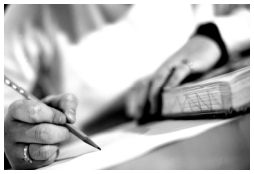
SPC's comprehensive Engineering technology degree program was developed in part by the Florida Advanced Technological education (FLATE) Center to give manufactures and advanced technology industries qualified, highly skilled workers. It is a model for colleges in Florida and throughout the country. In addition, this degree offers subplans in biomedical systems, medical quality systems, electronics, quality, and digital design and modeling.

Degrees Offered

Associate in Science Degrees in Engineering Technology and Biomedical Engineering Technology are offered at SPC. Certificates in Computer-Aided Design and Drafting, Engineering Technology Support, Lean Six-Sigma Green Belt, Medical Quality Systems, Rapid Prototyping and Design, and Six Sigma Black Belt are also offered at SPC.

Program Performance

- *Actual Course Enrollment* increased in 2016 (978) from the previous year (904).
- *Unduplicated Headcount* decreased in 2016 (374) from the previous year (410).
- *SSH Enrollment* increased in 2016 (2,843) from the previous year (2,647).
- Comparisons between the Fall semesters indicated that the *Percent Full Metric* decreased in Fall 2017 (61.1%) from Fall 2016 (69.9%).
- The *course success rate* increased in 2016 (83.8%) from the previous year (83.6%).
- *Grade Distribution* indicated that over three-quarters of the ENG-AS students (76%) received an 'A', 'B' or 'C' during 2016, while over four-fifths of the BMET-AS students (82%) received an 'A', 'B' or 'C' during 2016.
- The Engineering Technology – AS program has identified the following *Industry Certifications:* Certified SolidWorks Associate, Certified SolidWorks Professional, and Certified AutoDesk User. Annual attainment goals for this industry are provided within the body of this document.
- *Internship Enrollment* for EET 2949 increased between Fall 2016 (9) and Spring 2017 (13) and between Summer 2017 (4) and Fall 2017 (11).
- *Program Plans Taken by Plan* revealed that over one third of the students who were enrolled in the program during Fall 2015, and had not graduated, remained in the program by Fall 2016. By Fall 2017, less than one sixth of the original (Fall 2015) ENG-AS students remained in the program. This measure does not display the number of students who graduated during any given term.
- The number of *program graduates* in the ENG-AS program increased in 2016 (20) from the previous year (14). The number of program graduates in the CAD-CT program increased in 2016 (14) from the previous year (11). The number of

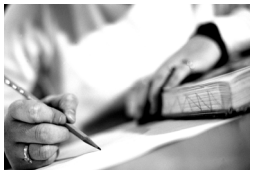


program graduates in the ENGTECH-CT program decreased in 2016 (21) from the previous year (27). The number of program graduates in the LEAN-CT program increased in 2016 (24) from the previous year (17). The number of program graduates in the MEDQS-CT program decreased in 2016 (1) from the previous year (7). The number of program graduates in the RAPID-CT program decreased in 2016 (12) from the previous year (14). The number of program graduates in the SIXSG-CT program decreased in 2016 (7) from the previous year (9). The BMET-AS program received its first set of graduates (6) in 2016.

- *Fulltime Faculty* taught 74.8% of the ECHs in 2016-17 as compared to 47.8% in 2015-16. Adjunct Faculty taught 25.2% of the ECHs in 2016-17 as compared to 52.2% in 2015-16.
- The highest semester for Adjunct ECHs was Summer 2013-14 in which adjunct faculty taught 94.4% of the program's course load. The three-semester average for adjuncts (25.2%) is consistent with the College's general 55/45 Fulltime/Adjunct Faculty Ratio guideline.

Occupation Profile

- Five *occupation descriptions,* Electrical and electronics engineering technicians; Industrial engineering technicians; Computer-controlled machine tool programmers, metal and plastic; Engineering technicians, except drafters, all other; and Electro-mechanical technicians were located in the Florida Department of Economic Opportunity (DEO) website for the Engineering Technology – AS program.
- The *2017 median hourly earnings* for Electrical and electronics engineering technicians was $27.58 in Florida and $23.63 in Pinellas County. The *2017 median hourly earnings* for Industrial engineering technicians was $21.62 in Florida and $20.46 in Pinellas County. The *2017 median hourly earnings* for Computer-controlled machine tool programmers, metal and plastic was $17.43 in Florida and $16.50 in Pinellas County. The *2017 median hourly earnings* for Engineering technicians, except drafters, all other was $28.84 in Florida and $21.87 in Pinellas County. The *2017 median hourly earnings* for Electro-mechanical technicians was $18.55 in Florida. There were no county data to report.
- *Employment trend information* for Electrical and electronics engineering technicians showed an average annual increase (0.4% - 5.5%) for the period between 2017 and 2025 across the state and county. *Employment trend information* for Industrial engineering technicians showed an average annual increase (2.6% - 3.5%) for the period between 2017 and 2025 across the state and county. *Employment trend information* for Computer-controlled machine tool programmers, metal and plastic showed an average annual increase (17.0% - 21.2%) for the period between 2017 and 2025 across the state and county. *Employment trend information* for Engineering technicians, except drafters, all other showed an average annual increase (3.0% - 14.1%) for the period between 2017 and 2025 across the state and county. *Employment trend information* for Electro-mechanical technicians showed an average annual decrease (-1.6%) for the period between 2017 and 2025 across the state.



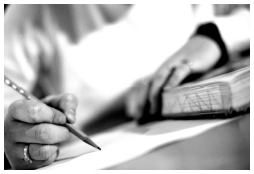
- The *major employers* of the Engineering Technology – AS graduates are Raytheon; TSE Industries; BryCoat, Inc.; Sypris Electronics; Bay Pines Veterans Hospital; Westlund Florida; Beryl Project Engineering; CompuLink; Florida Dental Repair; Northside Engineering; Suncoast Aluminum Engineering; Mazas Pantazes Architecture & Design; Guldmann, Inc.; PowerDesign; and Falicon Crankshaft Components.
- *Total Placement* in the Engineering Technology – AS program decreased in 2015-16 (85%) from the previous year (100%).
- *State Graduates data* indicated that eighty-five students completed one of thirteen state Engineering Technology - AS programs in 2015-16, of those 51 had some matching state data and were employed. Twenty-eight percent (28%) of those state graduates were employed at least a full quarter.

Academics

- The *2016-17 Academic Program Assessment Report* indicated that the desired results were met for all three Program Learning Outcomes (PLOs) assessed in the Engineering Technology – AS Program. The criteria for success were met for all three years for PLOs 1 and 2; however, for PLO 3, the criteria for success were met for specific years and not others.
- The *2016-17 Academic Program Assessment Follow-Up Report* has not yet been completed for the Engineering Technology – AS program.

Stakeholder Perceptions

- All the individual average content area scores for the *Student Survey of Instruction (SSI)* were above the traditional threshold (an average of 5.0) used by the College for evaluating seven-point satisfaction scales. These results suggest general overall satisfaction with the courses within the Engineering Technology program; specifically, as they relate to faculty engagement, preparation and organization, and course instruction.
- Eighty-eight *Recent Alumni surveys* were provided to the 2014-15 graduates of the Engineering Technology program. Six percent of the graduates responded to the survey (5 of the 88). Not all respondents answer every survey question; therefore, the percentages listed below represent the responses to each survey question in relation to the total number of responses received for each question. Notable results include:
    - 40.0% of recent graduate survey respondents indicated their main goal in completing a degree or certificate at SPC was to "Change career fields"; 20.0% selected "Get a promotion"; 20.0% selected "Meet certification/training needs"; while the remaining 20.0% selected "Continue my education".
    - 60.0% of recent graduate survey respondents indicated that SPC did "Very well" in helping them meet their goal; while the remaining 40.0% said SPC did not help at all.
    - 80.0% of recent graduate survey respondents would recommend SPC's Engineering Technology program to another.



- *Employer surveys* are sent based on permissions provided by recent graduates in the 2014-15 recent alumni survey. Since permission was not received from recent graduates, there is no employer survey information available.

Dean's Perspective: Issues, Trends, and Recent Successes

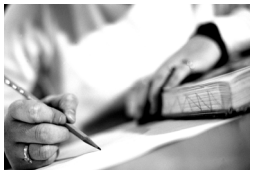
The Engineering division within the College of Engineering, Manufacturing, and Building Arts at SPC provides students with the knowledge and skills necessary to gain employment in the engineering and manufacturing industry. Our goal is to develop students into productive employees and lifelong learners. We aim to provide courses, degrees and certificates that are directly applicable to the skillsets required by area employers.

The Engineering program at St. Petersburg College is a successful program with tremendous impact. Continued success of the program will depend on experiential learning opportunities, placement of students in work experiences, internships, and other high impact learning environments. These opportunities are a defining feature of the program and should be maintained and expanded proportionately with enrollment growth.

In 2018, St. Petersburg College was awarded a Department of Economic Opportunity grant in partnership with Pinellas Technical College to create a workforce and credit program for over 1.5 million dollars to support Mechatronics. In the Fall of 2018, workforce training will begin offering a PLC course to introduce incumbent workers and students to the Mechatronics field. In the spring of 2019, SPC will begin offering the new A.S degree with hopes to grow the program by articulating workforce skills and training into credit options.

Recommendations/Action Plan

Program Recommendations and action plans are compiled by the Dean and Program Administrators, and are located at the end of the document.



SPC Mission Statement

The mission of St. Petersburg College is to promote student success and enrich our communities through education, career development and self-discovery. St. Petersburg College fulfills its mission led by an outstanding, diverse faculty and staff and enhanced by advanced technologies, distance learning, international education opportunities, innovative teaching techniques, comprehensive library and other information resources, continuous institutional self-evaluation, a climate for student success, and an enduring commitment to excellence.

Introduction

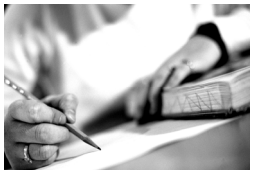
In a holistic approach, the effectiveness of any educational institution is the aggregate value of the education it provides to the community it serves. For over eighty-five years, St. Petersburg College (SPC) has provided a wide range of educational opportunities and services to a demographically diverse student body producing tens of thousands of alumni who have been on the forefront of building this county, state, and beyond. This is due, in large part, to the College's institutional effectiveness.

Institutional Effectiveness

Institutional Effectiveness is the integrated, systematic, explicit, and documented process of measuring performance against the SPC mission for the purposes of continuous improvement of academic programs, administrative services, and educational support services offered by the College.

Operationally, the institutional effectiveness process ensures that the stated purposes of the College are accomplished. In other words did the institution successfully execute its mission, goals, and objectives? At SPC, the Department of Academic Effectiveness works with all departments and units to establish measurable statements of intent that are used to analyze effectiveness and to guide continuous quality improvement efforts. Each of St. Petersburg College's units is required to participate in the institutional effectiveness process.

The bottom-line from SPC's institutional effectiveness process is improvement. Once SPC has identified what it is going to do then it acts through the process of teaching, researching, and managing to accomplish



its desired outcomes. The level of success of SPC's actions is then evaluated. A straightforward assessment process requires a realistic consideration of the intended outcomes that the institution has set and a frank evaluation of the evidence that the institution is achieving that intent.

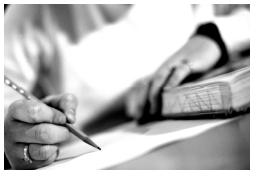
There is no single right or best way to measure success, improvement, or quality. Nevertheless, objectives must be established, data related to those objectives must be collected and analyzed, and the results of those findings must be used to improve the institution in the future. The educational assessment is a critical component of St. Petersburg College's institutional effectiveness process.

Educational Assessment

Educational programs use a variety of assessment methods to improve their effectiveness. Assessment and evaluation measures are used at various levels throughout the institution to provide provosts, deans, program managers, and faculty vital information on how successful our efforts have been.

While the focus of a particular educational assessment area may change, the assessment strategies remain consistent and integrated to the fullest extent possible. The focus of Associate in Arts degrees is students continuing on to four-year degree programs. The Associate in Science programs are targeted towards students seeking employable skills, which does not require but may include continuing on to a four-year program. The General Education based assessments focus on the general learning outcomes from all degree programs, while Program Review looks at the viability of the specific programs.

The individual reports unique by their individual nature are nevertheless written to address how the assessments and their associated action plans have improved learning in their program. The College has developed an Educational Assessment Website http://web.spcollege.edu/edoutcomes/ to serve as repository for all SPC's educational outcomes reports and to systematically manage our assessment efforts.



Program Review Process

The program review process at St. Petersburg College is a collaborative effort to continuously measure and improve the quality of educational services provided to the community. The procedures described below go far beyond the "periodic review of existing programs" required by the Florida College System, and exceed the necessary guidelines within the Southern Association of Community Colleges and Schools Commission on Colleges (SACSCOC) review procedures.

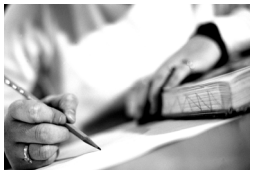
State guidelines require institutions to conduct program reviews every seven years as mandated in chapter 1001.03(13) of the Florida Statutes, the State Board of Education (formerly the Florida Board of Education) must provide for the review of all academic programs.

> *(13) …CYCLIC REVIEW OF POSTSECONDARY ACADEMIC PROGRAMS.--The State Board of Education shall provide for the cyclic review of all academic programs in Florida College System institutions at least every 7 years. Program reviews shall document how individual academic programs are achieving stated student learning and program objectives within the context of the institution's mission. The results of the program reviews shall inform strategic planning, program development, and budgeting decisions at the institutional level.*

In addition, Rule 6A-14.060 (5) states that each community college shall:

> *(5) …Develop a comprehensive, long-range program plan, including program and service priorities. Statements of expected outcomes shall be published, and facilities shall be used efficiently to achieve such outcomes. Periodic evaluations of programs and services shall use placement and follow-up data, shall determine whether expected outcomes are achieved, and shall be the basis for necessary improvements.*

The recommended program review timeline at SPC is four years and is aligned with the long-standing three-year academic program assessment cycle, producing a coherent and integrated review process. Figure 1



represents the relationship between program assessment, program review, and the viability report processes that comprise the academic program assessment cycle.

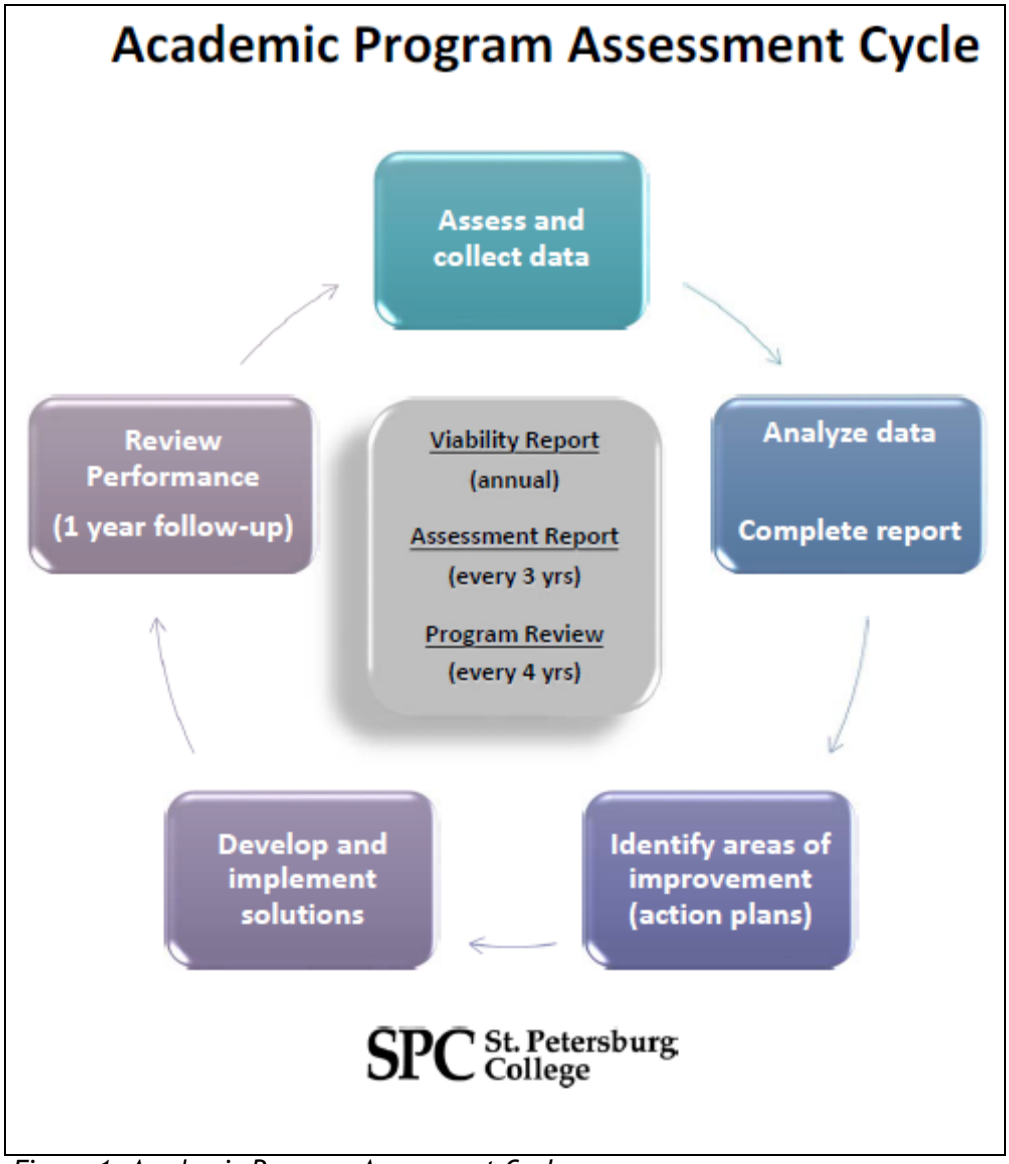
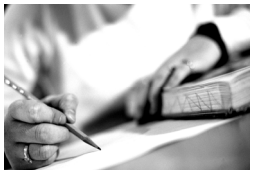


Figure 1: Academic Program Assessment Cycle



Program Description

SPC's comprehensive Engineering technology degree program was developed in part by the Florida Advanced Technological education (FLATE) Center to give manufactures and advanced technology industries qualified, highly skilled workers. It is a model for colleges in Florida and throughout the country. In addition, this degree offers subplans in biomedical systems, medical quality systems, electronics, quality, and digital design and modeling.

Degrees Offered

Associate in Science Degrees in Engineering Technology and Biomedical Engineering Technology are offered at SPC. Certificates in Computer-Aided Design and Drafting, Engineering Technology Support, Lean Six-Sigma Green Belt, Medical Quality Systems, Rapid Prototyping and Design, and Six Sigma Black Belt are also offered at SPC.

For a complete listing of all courses within the Engineering Technology Program, please see Appendix A.

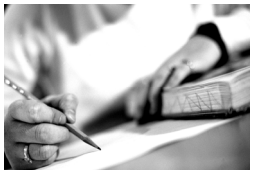
Accreditation

No accreditation information is on file for the Engineering Technology – AS program.

Program Learning Outcomes

Engineering Technology (AS)

1. Demonstrate the ability to plan and manage assigned activities effectively, using industry standards.
2. Works and performs task effectively to meet deadlines, using professional industry standards.
3. Demonstrates effective oral and written communication skills in a work related environment, using professional industry standards.



Measure Descriptions

The CAPR reports include twenty-two measures designed to provide an overview of all the various elements pertaining to the program. The source of the information for nine of the first ten measures is the Program Review CAPR Dashboard in the SPC Pulse/Business Intelligence system. Sources for the remaining measures can be found within their measure description. Measures obtained from SPC Pulse/Business Intelligence were extracted in fall 2017. Each measure is described in detail below.

Measure #1: *Actual Course Enrollment (Enrollment Count)*

Actual Course Enrollment is the sum of actual student enrollment for the courses within the specified Academic Organization during the selected academic years. This number is a duplicated headcount of students enrolled in the program's courses, and does not reflect the actual number of students enrolled in the program or its associated certificates (if applicable). The filters for the Actual Course Enrollment measure are as follows:

- **Academic Year - Term Desc - Multi:** 2013, 2014, 2015, 2016
- **Academic Plan - Multi:** Undergraduate
- **College - Group - Acad Org - Subject:** Academic Organization
- **All other filters:** All

Measure #2: *Unduplicated Headcount*

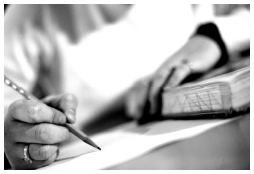
Unduplicated Headcount is the total number of unduplicated students enrolled in courses within the specified Academic Organization during the selected academic years. The filters for the Unduplicated Headcount measure are as follows:

- **Academic Year - Term Desc - Multi:** 2013, 2014, 2015, 2016
- **Academic Plan - Multi:** Undergraduate
- **College - Group - Acad Org - Subject:** Academic Organization
- **All other filters:** All

Measure #3: *SSH Enrollment*

Student Semester Hours (SSH) Enrollment is defined as the total number of student semester hours in the specified Academic Organization during the selected academic years. The filters for the SSH Enrollment measure are as follows:

- **Academic Year - Term Desc - Multi:** 2013, 2014, 2015, 2016
- **Academic Plan - Multi:** Undergraduate
- **College - Group - Acad Org - Subject:** Academic Organization
- **All other filters:** All



Measure #4: *Percent Full*

The Percent Full metric is the actual enrollment count of the specified Academic Organization divided by the Standard Course Load (SCL) for the selected academic terms. The filters for the Percent Full metric are as follows:

- **Academic Year - Term Desc - Multi:** 2016-17 Fall, Spring, Summer; 2017-18 Fall
- **College - Group - Acad Org - Subject:** Academic Organization
- **Class Status:** Active, Full, Stop Further Enrollment
- **All other filters:** All

Measure #5: *Course Success (Performance)*

The Performance measure is defined as the number of students successfully completing a course with a grade of A, B, or C (success rate), divided by the total number of students enrolled in courses within the Academic Organization during the selected academic years. The filters for the Performance measure are as follows:

- **Academic Year - Term Desc - Multi:** 2013, 2014, 2015, 2016
- **Academic Plan - Multi:** Undergraduate
- **College - Group - Acad Org - Subject:** Academic Organization
- **All other filters:** All

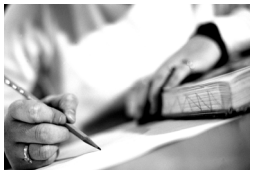
Measure #6: *Grade Distribution*

The Grade Distribution measure reports the number of students receiving an A, B, C, D, F, N, W, or WF in courses within the academic program plan during the selected academic years. The filters for the Grade Distribution measure are as follows:

- **Academic Year - Term Desc - Multi:** 2013, 2014, 2015, 2016
- **Academic Plan - Multi:** Program Plan
- **All other filters:** All

Measure #7: *Industry Certification Attainment*

The Industry Certification Attainment measure reports the number of students in the program plan that have attained an industry certification or have passed a licensing exam. *Source: SPC Factbook, Table 9; Workforce database of student certifications.*



Measure #8: *Internship Enrollment (Course Groups)*

The Internship Enrollment measure reports the number of students enrolled in clinical, practicum, or internship courses within the program plan during the selected academic years. The filters for the Internship Enrollment measure are as follows:

- **Academic Year - Term Desc - Multi:** 2016-17 Fall, Spring, Summer; 2017-18 Fall
- **Academic Plan - Multi:** Program Plan
- **All other filters:** All

Measure #9: *Program Plans Taken by Plan*

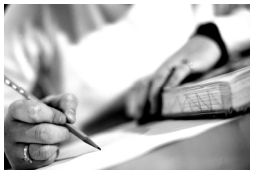
The Program Plans Taken by Plan measure reports the number of students in the specified program plan in a selected cohort (by Term) that have continued in the plan, and the number of students that have since transferred to other plans, for the selected academic terms or years. The filters for the Program Plans Taken by Plan measure are as follows:

- **Student Cohort Student Term History Academic Year-Term Desc:** 2015-16 Fall
- **Enroll History Acad Term Desc (must be same as above):** 2015-16 Fall
- **Student Term History Academic Plan:** Applicable Program plan
- **Comparison Filters**
  Academic Year - Term Desc - Multi: 2015-16 Fall, Spring, Summer; 2016-17 Fall, Spring, Summer; 2017-18 Fall
- **All other filters:** All

Measure #10: *Graduates*

The Graduates measure depicts the total number of graduates within specified program plan(s) associated with the Academic Organization, for the selected academic years. The filters for the Graduates measure are as follows:

- **Academic Year - Term Desc - Multi:** 2013, 2014, 2015, 2016
- **Graduation Degree Plan Subplan - Multi:** All Applicable Program Plans
- **All other filters:** All



Measure #11: *Faculty/Adjunct Ratio*
The Faculty/Adjunct Ratio measure reports the number and percentage of program equated credit hours (ECHs) taught by the individual faculty classifications. *Source: PeopleSoft Student Administration System: Faculty/Adjunct Ratio Report (S_FACRAT).*

Measure #12: *Revenue and Expenses (will be available by December 2019)*

Measure #13: *Capital Expenditures (will be available by December 2019)*

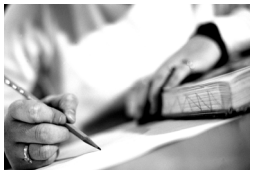
Measure #14: *State and County Trends and Wage Information*
Employment trend information is reported by state and county. Jobs (2017) refers to the average annual job openings due to growth and net replacement; % Change (2017-2025) depicts the percent change in the number of annual job openings during the eight-year period; and Median Earnings refers to the average earnings for the specified job title. *Source: Florida Department of Economic Opportunity (DEO) http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections*

Measure #15: *Major Employers*
Major employers consist of the primary local employers of SPC graduates. These names are obtained from the Recent Alumni Survey Report and Program Administrators.

Measure #16: *Total Placement*
Total Placement is the percentage of students who have enlisted in the military, are continuing their education, or are employed in their field within the first year of graduation. *Source: FETPIP Florida College System Vocational Reports http://www.fldoe.org/accountability/fl-edu-training-placement-info-program/fl-college-system-vocational-reports.stml*.

Measure #17: *State Graduates Outcomes*
State graduates outcomes provide reference data for the employment trend data. Specifically, data on former students and program participants who have graduated, exited or completed a public or training program within the State of Florida are documented. *Source: FETPIP Florida College System Vocational Reports http://www.fldoe.org/accountability/fl-edu-training-placement-info-program/fl-college-system-vocational-reports.stml*.

Measure #18: *Educational Outcomes*
End-of-program assessment data that are reported in the program's most recent Academic Program Assessment Report (APAR) are summarized and reported with



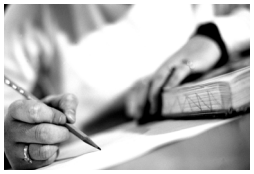
the program's learning outcomes, means of assessment, and information about the program's next assessment report.

Measure #19: *Three-Year Course Review* ***(will be available by December 2019)***

Measure #20: *Student Survey of Instruction*
The Student Survey of Instruction (SSI) is electronically distributed to all students enrolled in traditional classroom sections, lab courses and self-paced or directed individual study, and online courses at the College. The purpose of the SSI is to acquire information on student perception of the quality of courses, faculty, and instruction, and to provide feedback information for improvement.

Measure #21: *Recent Alumni Survey*
Recent alumni surveys are administered to measure alumni satisfaction with SPC's education programs. The Recent Alumni Survey collects information related to career preparation, preparation for continuing education, and the current employment information and educational status of former students. Recent Alumni are surveyed six months after they graduate from SPC.

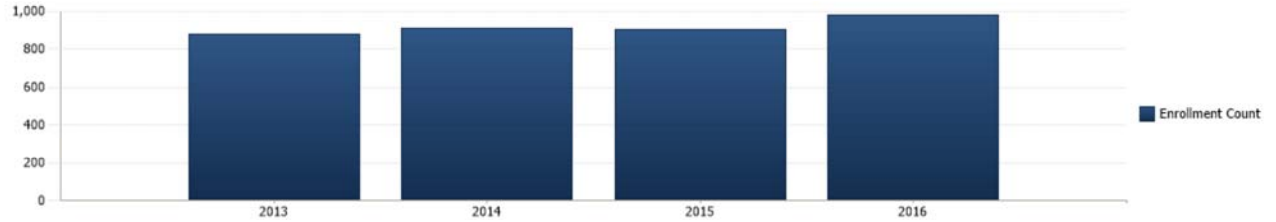
Measure #22: *Employer Survey*
Employer surveys are used to measure employer satisfaction with SPC graduates. Employers evaluate graduates from Bachelor of Science/Bachelor of Applied Science (BS/BAS), Associate in Science/Associate in Applied Science (AA/AS), and certificate programs. Surveys are sent to employers of recent graduates annually each spring semester.



Program Performance

Enrollment Count Graph

Student Term Career - Program - Plan - Subplan: **UGRD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**, Class A...



Enrollment Count

Student Term Career - Program - Plan - Subplan: **UGRD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**, Class A...

Term Academic Year - Term Desc	Enrollment Count
2013	879
2014	909
2015	904
2016	978

Student System Cube Refresh

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi: 2013, 2014, 2015, 2016

Campus Description: All

Academic Plan - Multi: All

College - Group - Acad Org - Subject: ENGRTCH-LD

Course Instructional Method: All

Student Type (FTIC): All

Class Academic Group: All

Age Group: All

Ethnic Group: All

Gender: All

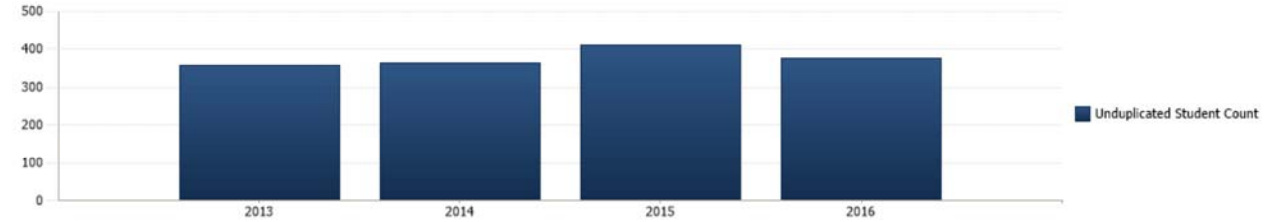
Custom Cohort: All

Student Group: All

Course Group: All

Unduplicated Student Count Graph

Student Term Career - Program - Plan - Subplan: **UGRD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**, Class A...



Unduplicated Student Count

Student Term Career - Program - Plan - Subplan: **UGRD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**, Class A...

Term Academic Year - Term Desc	Unduplicated Student Count
2013	356
2014	363
2015	410
2016	374

Student System Cube Refresh

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi: 2013, 2014, 2015, 2016

Campus Description: All

Academic Plan - Multi: All

College - Group - Acad Org - Subject: ENGRTCH-LD

Course Instructional Method: All

Student Type (FTIC): All

Class Academic Group: All

Age Group: All

Ethnic Group: All

Gender: All

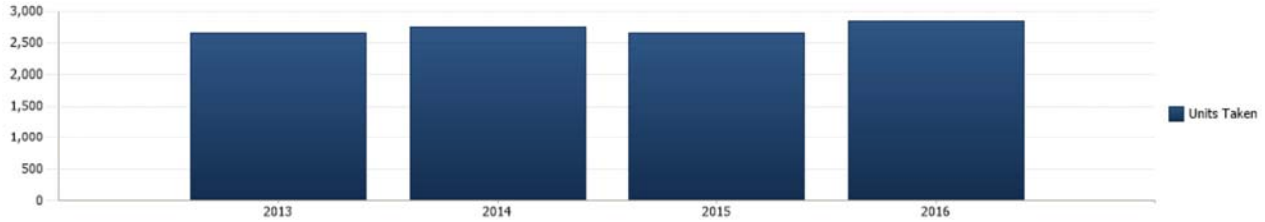
Custom Cohort: All

Student Group: All

Course Group: All

SSH Enrollment Graph

Student Term Career - Program - Plan - Subplan: **UGRD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**, Class A...



SSH Enrollment

Student Term Career - Program - Plan - Subplan: **UGRD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**, Class A...

Term Academic Year - Term Desc	Units Taken
2013	2,647
2014	2,757
2015	2,647
2016	2,843

Student System Cube Refresh

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi: 2013, 2014, 2015, 2016

Campus Description: All

Academic Plan - Multi: All

College - Group - Acad Org - Subject: ENGRTCH-LD

Course Instructional Method: All

Student Type (FTIC): All

Class Academic Group: All

Age Group: All

Ethnic Group: All

Gender: All

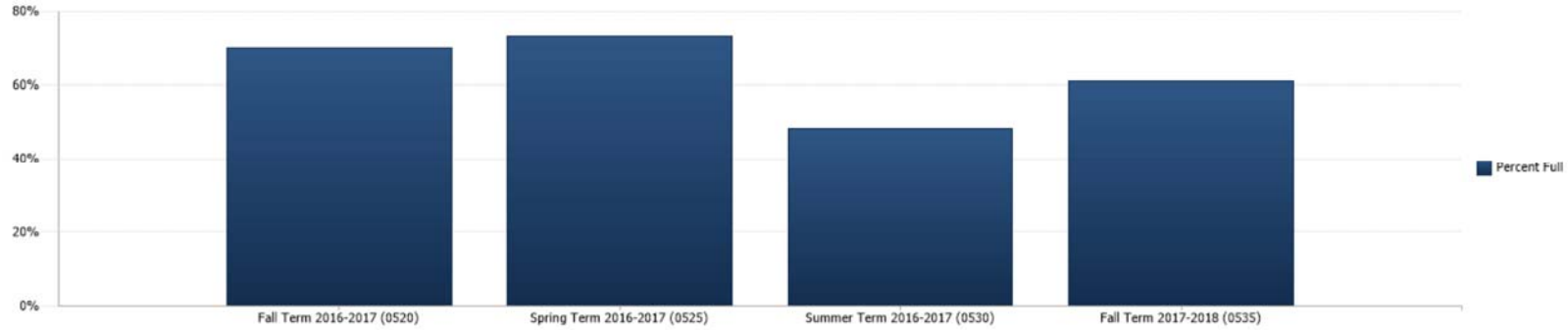
Custom Cohort: All

Student Group: All

Course Group: All

Percent Full Metric Graph

Class Status: **Active**, **Full**, **Stop Further Enrollment**, Class Academic Group: **LD**, **UD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**



Percent Full Metric by Instructional Method

Class Status: **Active**, **Full**, **Stop Further Enrollment**, Class Academic Group: **LD**, **UD**, Class College School Dept - Academic Group Desc - Academic Organization - Subject Catalog Nbr: **ENGRTCH-LD**, Filter empty rows and columns

		All			
Term Academic Year - Term Desc	Measures		Face-to-Face	Independent Study	Online
Fall Term 2016-2017 (0520)	Enrollment Count	491	422	29	40
Fall Term 2016-2017 (0520)	Standard Course Load	702	562	120	20
Fall Term 2016-2017 (0520)	Percent Full	69.9%	75.1%	24.2%	200.0%
Spring Term 2016-2017 (0525)	Enrollment Count	431	418	13	
Spring Term 2016-2017 (0525)	Standard Course Load	588	568	20	
Spring Term 2016-2017 (0525)	Percent Full	73.3%	73.6%	65.0%	
Summer Term 2016-2017 (0530)	Enrollment Count	56	56		
Summer Term 2016-2017 (0530)	Standard Course Load	116	116		
Summer Term 2016-2017 (0530)	Percent Full	48.3%	48.3%		
Fall Term 2017-2018 (0535)	Enrollment Count	436	372	31	33
Fall Term 2017-2018 (0535)	Standard Course Load	714	514	170	30
Fall Term 2017-2018 (0535)	Percent Full	61.1%	72.4%	18.2%	110.0%

Student System Cube Refre

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi F

Campus Description All

College - Group - Acad Org - Subject

Course Instructional Method All

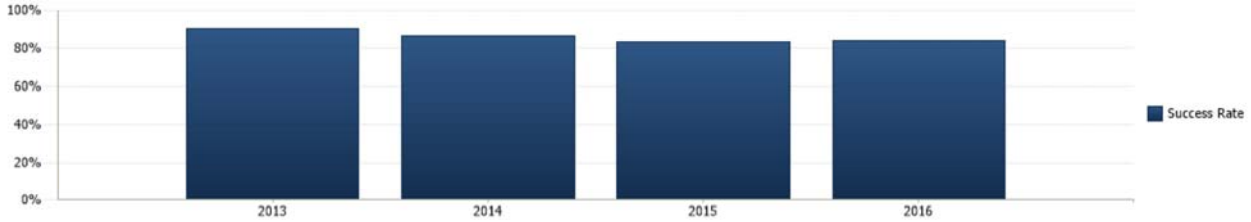
Class Status Active, Full, Stop Further

Student Group All

Course Group All

Success Rate Graph

Student Term Career - Program - Plan - Subplan: **UGRD**, Grade Success Rate Grading Basis: **Y**, Class College School Dept - Academic Group Desc - Academic Organization - Subject...



Performance

Student Term Career - Program - Plan - Subplan: **UGRD**, Grade Success Rate Grading Basis: **Y**, Class College School Dept - Academic Group Desc - Academic Organization - Subject...

Term Academic Year - Term Desc	Enrollment Count	Success Rate	Withdrawal Rate	F Rate	WF Rate
2013	878	90.2%	3.2%	3.5%	1.7%
2014	907	86.2%	5.6%	4.2%	2.8%
2015	902	83.6%	6.3%	5.5%	3.5%
2016	976	83.8%	4.1%	4.2%	5.8%

Student System Cube Refresh

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi: 2013, 2014, 2015, 2016

Campus Description: All

Academic Plan - Multi: All

College - Group - Acad Org - Subject: ENGRTCH-LD

Course Instructional Method: All

Student Type (FTIC): All

Class Academic Group: All

Age Group: All

Ethnic Group: All

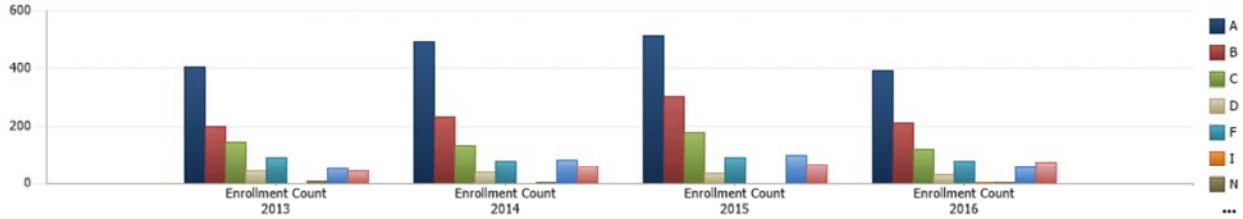
Gender: All

Student Group: All

Course Group: All

Student Grade Distribution Graph

Student Term Career - Program - Plan - Subplan: **UGRD**, Academic Plan: **ENG-AS**, Grade Success Rate Grading Basis: **Y**, Grade Success Rate Grade Input: **Y**, Class Academic Career: **U**...



Student Grade Distribution

Student Term Career - Program - Plan - Subplan: **UGRD**, Academic Plan: **ENG-AS**, Grade Success Rate Grading Basis: **Y**, Grade Success Rate Grade Input: **Y**, Class Academic Career: **U**...

	Enrollment Count									
	All									
Term Academic Year - Term Desc		A	B	C	D	F	I	N	W	WF
2013	970	401	199	143	42	91		5	47	42
2014	1,113	489	234	134	35	79		4	83	55
2015	1,279	513	302	178	30	92			100	64
2016	952	389	210	120	27	76	1	1	54	74

Student System Cube Refresh

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi: 2013, 2014, 2015, 2016

Campus Description: All

Academic Plan - Multi: ENG-AS

Course Instructional Method: All

Student Type (FTIC): All

Class Academic Group: All

Age Group: All

Ethnic Group: All

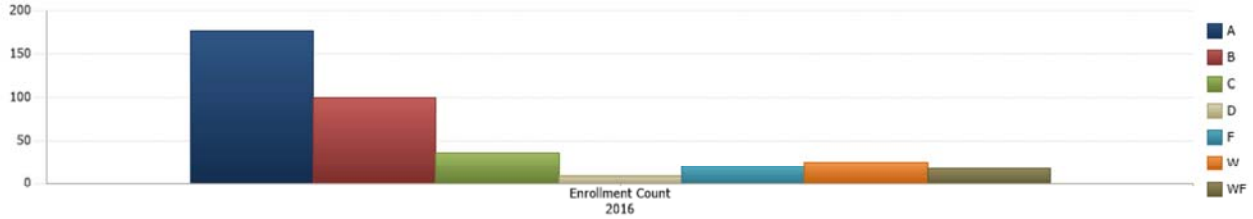
Gender: All

Student Group: All

Course Group: All

Student Grade Distribution Graph

Student Term Career - Program - Plan - Subplan: **UGRD**, Academic Plan: **BMET-AS**, Grade Success Rate Grading Basis: **Y**, Grade Success Rate Grade Input: **Y**, Class Academic Career ...



Student Grade Distribution

Student Term Career - Program - Plan - Subplan: **UGRD**, Academic Plan: **BMET-AS**, Grade Success Rate Grading Basis: **Y**, Grade Success Rate Grade Input: **Y**, Class Academic Career ...

	Enrollment Count							
	All							
Term Academic Year - Term Desc		A	B	C	D	F	W	WF
2016	378	176	99	36	8	19	24	16

Student System Cube Refresh

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi: 2013, 2014, 2015, 2016

Campus Description: All

Academic Plan - Multi: BMET-AS

Course Instructional Method: All

Student Type (FTIC): All

Class Academic Group: All

Age Group: All

Ethnic Group: All

Gender: All

Student Group: All

Course Group: All

Industry Certification Attainment

In the Engineering Technology program, students may obtain certifications in SolidWorks Associate, SolidWorks Professional, and AutoDesk User.

Certifications Architectural Design & Construction Technology AS Engineering Technology AS	Earned 2014-15	Earned 2015-16	Goal 2016-17	Earned 2016-17
Certified SolidWorks Associate	15	8	15	11
Certified SolidWorks Professional			10	
Certified AutoDesk User		13	25	14

Source: 2016-17 Viability Report

View: **Course Groups**
Date: **10/5/2017**
Dashboard: **Course Groups**
Parameter: **Fall Term 2016-2017 (0520),Spring Term 2016-2017 (0525),Summer Term 2016-2017 (0530),Fall Term 2017-2018 (0535),All,Undergraduate,ENGRTCH-LD,All,All,All,All,All,All**

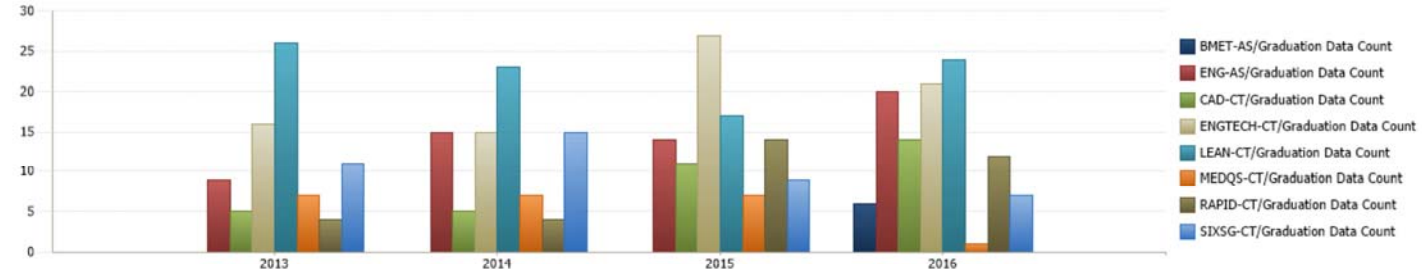
Class Course Group - Subject Catalog Nbr	Fall Term 2016-2017 (0520)		Spring Term 2016-2017 (0525)		Summer Term 2016-2017 (0530)		Fall Term 2017-2018 (0535)	
	Unduplicated Student Count	Number of Classes	Unduplicated Student Count	Number of Classes	Unduplicated Student Count	Number of Classes	Unduplicated Student Count	Number of Classes
EET2949	9	1	13	1	4	1	11	1

View: **Program Plans Taken by Plan**
Date: **2/12/2018**
Dashboard: **Program Plans Taken by Plan**
Parameter: **Fall Term 2015-2016 (0505),Fall Term 2015-2016 (0505),ENG-AS,All,All,All,All,All,All,All,All,Fall Term 2015-2016 (0505),Spring Term 2015-2016 (0510),Summer Term 2015-2016 (0515),Fall Term 2016-2017 (0520),Spring Term 2016-2017 (0525),Summer Term 2016-2017 (0530),Fall Term 2017-2018 (0535),All**

Academic Plan	Fall Term 2015-2016 (0505) Unduplicated Student Count	Spring Term 2015-2016 (0510) Unduplicated Student Count	Summer Term 2015-2016 (0515) Unduplicated Student Count	Fall Term 2016-2017 (0520) Unduplicated Student Count	Spring Term 2016-2017 (0525) Unduplicated Student Count	Summer Term 2016-2017 (0530) Unduplicated Student Count	Fall Term 2017-2018 (0535) Unduplicated Student Count
All	200	145	72	109	88	40	66
ENG-AS	200	137	61	73	51	18	31
GEN-AA		2	3	4	3	1	5
ENGINE-TR		3	3	6	7	5	4
ENRCH-NO						1	2
BUS-AS				1			
TMGT-BAS						1	1
APLS-CT			1	1			1
BMET-AS				17	20	9	11
CIT-AS			1	1	1	1	
COMM-TR						1	1
CWPA-AS			1	2	1		1
EAM-AS							1
HSA-AS							1
INMG-AS		1	1	1	1		
LEAN-CT							1
MGTORG-BAS		1	1	2	2	2	4
PGY-AS							1
SUSMGT-BAS		1		1	2	1	1

Overall Graduates Trend

No background selections exist, Filter empty series and bottom axis items



Overall Graduates Count

No background selections exist, Filter empty rows and columns

Graduation Degree - Plan - Sub Plan	Measures	2013	2014	2015	2016
BMET-AS	Graduation Data Count				6
ENG-AS	Graduation Data Count	9	15	14	20
CAD-CT	Graduation Data Count	5	5	11	14
ENGTECH-CT	Graduation Data Count	16	15	27	21
LEAN-CT	Graduation Data Count	26	23	17	24
MEDQS-CT	Graduation Data Count	7	7	7	1
RAPID-CT	Graduation Data Count	4	4	14	12
SIXSG-CT	Graduation Data Count	11	15	9	7

Student System Cube Refresh

Last Refresh: 2/12/2018 5:24:16 AM

CAPR Process Document

CAPR Process Document

Academic Year - Term Desc - Multi: 2013, 2014, 2015, 2016

Graduation Degree Plan Subplan - Multi: BMET-AS, ENG-AS, CA

Age Group: All

Gender: All

Ethnic Group: All

Student Group: All

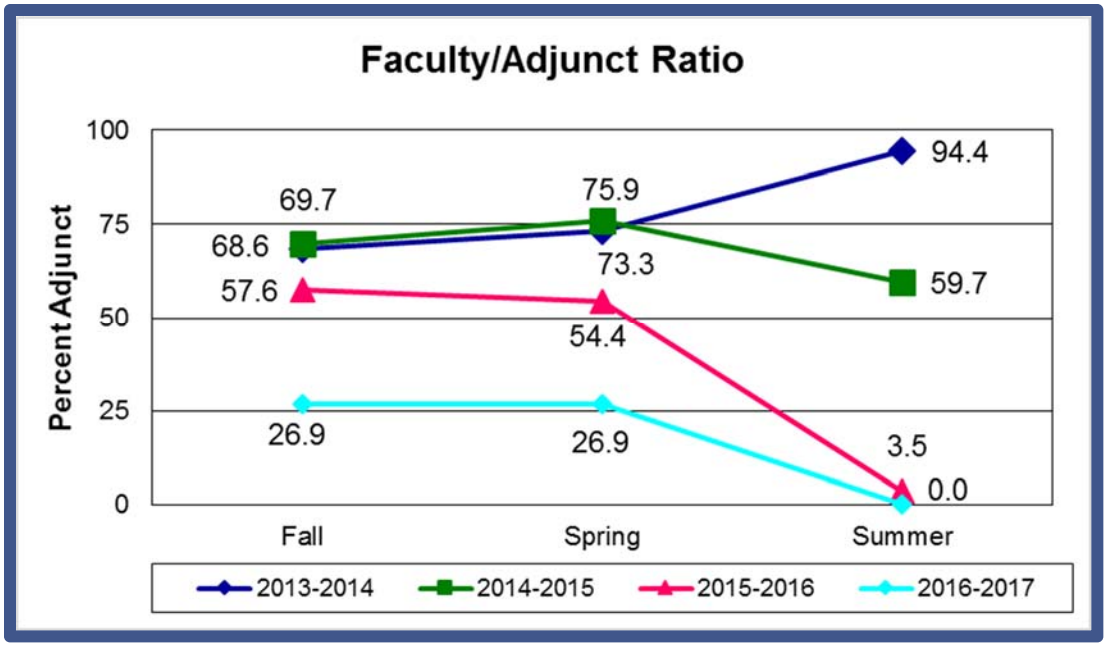
Custom Cohort: All

Faculty/Adjunct Ratio

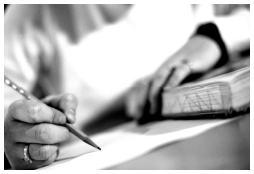
Equated Credit Hours by Faculty Classification

	Fulltime Faculty		Percent of Load Faculty		Adjunct Faculty	
	Number of ECHs	% of Classes Taught	Number of ECHs	% of Classes Taught	Number of ECHs	% of Classes Taught
Fall 2013-2014	26.4	31.4%	0.0	0.0%	57.8	68.6%
Spring 2013-2014	23.9	26.7%	0.0	0.0%	65.6	73.3%
Summer 2013-2014	1.0	5.6%	0.0	0.0%	17.0	94.4%
2013-2014 Total	51.3	26.8%	0.0	0.0%	140.4	73.2%
Fall 2014-2015	24.6	30.3%	0.0	0.0%	56.6	69.7%
Spring 2014-2015	19.5	24.1%	0.0	0.0%	61.4	75.9%
Summer 2014-2015	11.6	40.3%	0.0	0.0%	17.2	59.7%
2014-2015 Total	55.8	29.2%	0.0	0.0%	135.2	70.8%
Fall 2015-2016	40.3	42.5%	0.0	0.0%	54.6	57.6%
Spring 2015-2016	36.4	45.6%	0.0	0.0%	43.4	54.4%
Summer 2015-2016	13.7	96.5%	0.0	0.0%	0.5	3.5%
2015-2016 Total	90.3	47.8%	0.0	0.0%	98.5	52.2%
Fall 2016-2017	69.4	73.1%	0.0	0.0%	25.5	26.9%
Spring 2016-2017	64.1	73.1%	0.0	0.0%	23.6	26.9%
Summer 2016-2017	12.0	100.0%	0.0	0.0%	0.0	0.0%
2016-2017 Total	145.5	74.8%	0.0	0.0%	49.1	25.2%

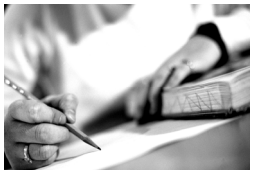
Source: PeopleSoft Student Administration System: Faculty/Adjunct Ratio Report (S_FACRAT).



Source: PeopleSoft Student Administration System: Faculty/Adjunct Ratio Report (S_FACRAT).



Occupation Profile



Occupation Descriptions

The occupation description for Electrical and electronics engineering technicians (173023) used by the DEO is shown below:

Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. Exclude "Broadcast Technicians" (274012).

The occupation description for Industrial engineering technicians (173026) used by the DEO is shown below:

Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May study and record time, motion, method, and speed involved in performance of production, maintenance, clerical, and other worker operations for such purposes as establishing production rates or improving efficiency.

The occupation description for Computer-controlled machine tool programmers, metal and plastic (514011) used by the DEO is shown below:

Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

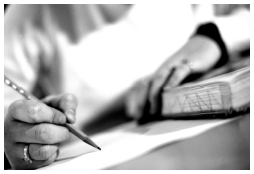
The occupation description for Engineering technicians, except drafters, all other (173029) used by the DEO is shown below:

All engineering technicians, except drafters, not listed separately.

There is no occupation description for Electro-mechanical technicians used by the DEO.

State and County Trends and Wage Information

The distribution of 2017 wage information for Electrical and electronics engineering technicians; Industrial engineering technicians; Computer-controlled machine tool programmers, metal and plastic; Engineering



technicians, except drafters, all other; and Electro-mechanical technicians is located in the table below. The median hourly earnings for Electrical and electronics engineering technicians was $27.58 in Florida and $23.63 in Pinellas County. The median hourly earnings for Industrial engineering technicians was $21.62 in Florida and $20.46 in Pinellas County. The median hourly earnings for Computer-controlled machine tool programmers, metal and plastic was $17.43 in Florida and $16.50 in Pinellas County. The median hourly earnings for Engineering technicians, except drafters, all other was $28.84 in Florida and $21.87 in Pinellas County. The median hourly earnings for Electro-mechanical technicians was $18.55 in Florida. There were no county data to report.

Employment trend information for occupations related to Engineering Technology are also provided in the tables. An average annual increase in employment for Electrical and electronics engineering technicians (0.4% – 5.5%) is shown for the period between 2017 and 2025, across the state and county. An average annual increase in employment for Industrial engineering technicians (2.6% – 3.5%) is shown for the period between 2017 and 2025, across the state and county. An average annual increase in employment for Computer-controlled machine tool programmers, metal and plastic (17.0% – 21.2%) is shown for the period between 2017 and 2025, across the state and county. An average annual increase in employment for Engineering technicians, except drafters, all other (3.0% – 14.1%) is shown for the period between 2017 and 2025, across the state and county. An average annual decrease in employment for Electro-mechanical technicians (-1.6%) is shown for the period between 2017 and 2025, across the state.

Employment Data

Growth for Electrical and electronics engineering technicians

	Jobs (2017)	% Change (2017-2025)	Median Earnings
Florida	5,620	5.5%	$27.58/hr
Pinellas County	514	0.4%	$23.63/hr

Source: Florida Department of Economic Opportunity (DEO) http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections

Growth for Industrial engineering technicians

	Jobs (2017)	% Change (2017-2025)	Median Earnings
Florida	2,109	3.5%	$21.62/hr
Pinellas County	234	2.6%	$20.46/hr

Source: Florida Department of Economic Opportunity (DEO) http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections

Growth for Computer-controlled machine tool programmers, metal and plastic

	Jobs (2017)	% Change (2017-2025)	Median Earnings
Florida	1,825	21.2%	$17.43/hr
Pinellas County	295	17.0%	$16.50/hr

Source: Florida Department of Economic Opportunity (DEO) http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections

Growth for Engineering technicians, except drafters, all other

	Jobs (2017)	% Change (2017-2025)	Median Earnings
Florida	4,027	3.0%	$28.84/hr
Pinellas County	92	14.1%	$21.87/hr

Source: Florida Department of Economic Opportunity (DEO) http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections

Growth for Electro-mechanical technicians

	Jobs (2017)	% Change (2017-2025)	Median Earnings
Florida	244	-1.6%	$18.55/hr
Pinellas County	N/A	N/A	N/A

Source: Florida Department of Economic Opportunity (DEO) http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections

Major Employers

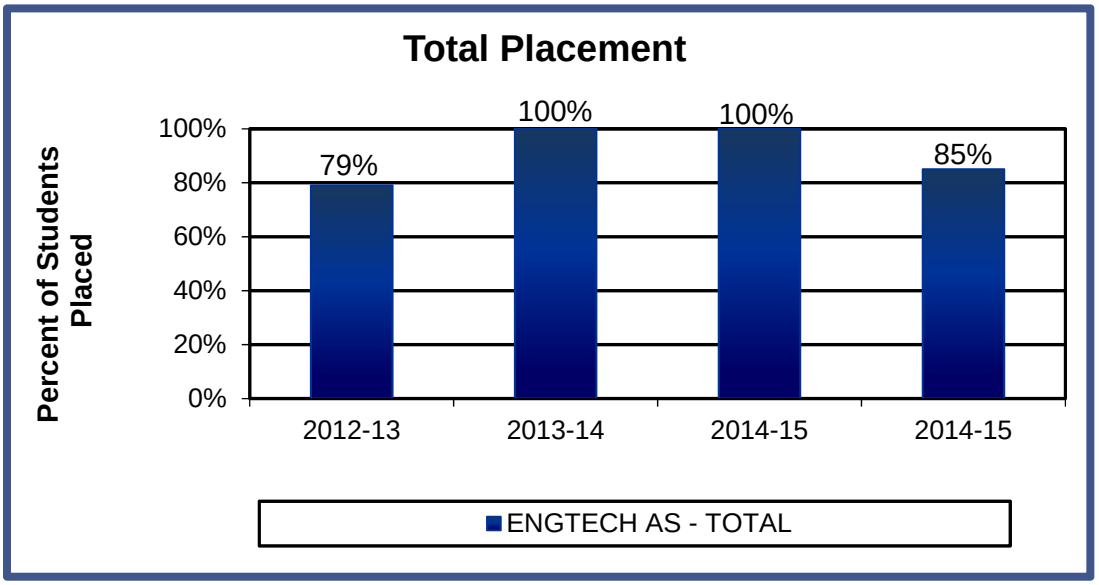
Graduates of SPC's Engineering Technology – AS program are employed in various areas related to their field. The primary local employers of these graduates are depicted in the table below.

Major Employers

Employers of Engineering Technology - AS Graduates
Raytheon
TSE Industries
BryCoat Inc
Sypris Electronics
Bay Pines Veterans Hospital
Westlund Florida
Beryl Project Engineering
CompuLink
Florida Dental Repair
Northside Engineering
Suncoast Aluminum Engineering
Mazas Pantazes Architecture & Design
Guldmann, Inc.
PowerDesign
Falicon Crankshaft Components

Source: Recent Alumni Survey reports and program administrator records

2016-17 Placement Data



	ENGTECH AS TOTAL	
	Pool Count	Percent Placed
2012-13	19	79%
2013-14	7	100%
2014-15	12	100%
2015-16	13	85%

Source: FETPIP Follow-up Outcomes http://www.fldoe.org/fetpip/ccs.asp

State Graduates Outcomes

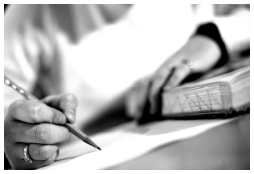
Engineering Technology Program Graduates 2015-16 Outcomes by Florida Community College

Florida Community College	Total Completers	# Found Employed	# Employed for a Full Qtr	% Employed For a Full Qtr	FETPIP Pool	# Training Related (Employed or Education)	Placement Rate
Broward College	****	****	****	50%	****	****	80%
College of Central Florida	****	****	****	67%	****	****	67%
Eastern Florida State College	17	10	****	***%	11	****	***%
Florida Gateway College	****	****	-	0%	****	-	0%
Florida State College at Jacksonville	19	16	12	63%	15	****	***%
Gulf Coast State College	13	11	****	***%	12	****	***%
Hillsborough Community College	****	****	****	67%	****	****	67%
Northwest Florida State College	12	****	****	***%	****	****	71%
Pensacola State College	****	****	****	100%	****	****	60%
Polk State College	10	****	****	***%	****	****	86%
St. Petersburg College	14	14	12	86%	13	11	85%

Florida Community College	Total Completers	# Found Employed	# Employed for a Full Qtr	% Employed For a Full Qtr	FETPIP Pool	# Training Related (Employed or Education)	Placement Rate
State College of Florida, Manatee-Sarasota	****	****	****	50%	****	****	83%
Tallahassee Community College	****	****	****	100%	****	****	100%
Total	**85**	**51**	**24**	**28%**	**51**	**11**	**22%**

**** Graduate values less than 10 but greater than 0.
*** Percentage based on numerator less than 10 and denominator 10 or more.

Source: FETPIP Florida College System Vocational Reports http://www.fldoe.org/accountability/fl-edu-training-placement-info-program/fl-college-system-vocational-reports.stml



Academics

Educational Outcomes

As part of SPC quality improvement efforts, academic assessments are conducted on each AS/BS/BAS program every three years to evaluate the quality of the program's educational outcomes. The Engineering Technology – AS program was evaluated through an Academic Program Assessment Report (APAR).

Each of the Program Learning Outcomes (PLOs) was evaluated during the 2016-17 assessment. Each of the three PLOs is listed below:

1. Demonstrate the ability to plan and manage assigned activities effectively, using industry standards.
2. Works and performs task effectively to meet deadlines, using professional industry standards.
3. Demonstrates effective oral and written communication skills in a work related environment, using professional industry standards.

Means of Assessment

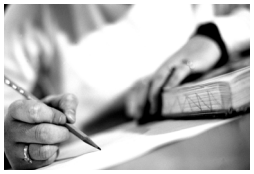
The purpose of the End of Program assessment is to make summative interpretations for program improvement.

The Engineering Technology (AS) program used the results of End of Program assessment within the Cooperative Education course. The End of Program assessment instrument consists of 4 sections and an overall score. The population sample included students who successfully completed the Associate in Science degree in Engineering Technology, and the co-op.

Data were collected during Spring 2015 through Summer 2017. The students whom were assessed achieved a minimum score of 2.0 during all three years for PLOs 1 and 2. However, for PLOs 3, the criteria for success were met for specific years and not others.

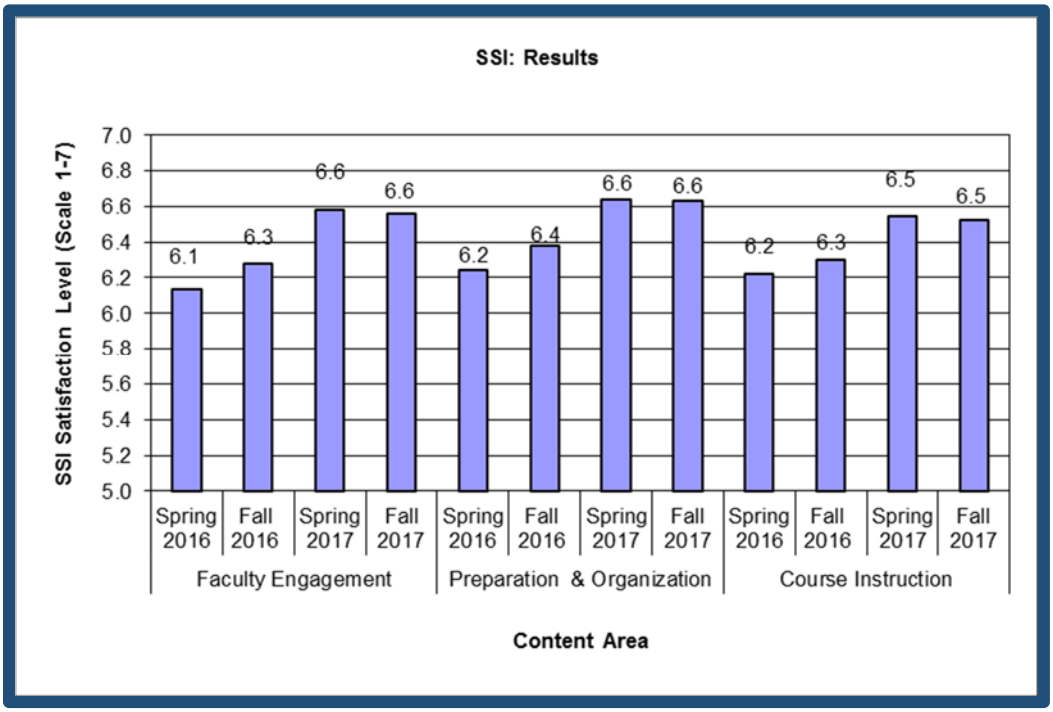
The 2016-17 follow-up report has not yet been drafted.

For the complete 2016-17 Engineering Technology Program Assessment Report, please see Appendix B.



Stakeholder Perceptions

Student Survey of Instruction (SSI)



Source: St. Petersburg College Student Survey of Instruction database

St. Petersburg College
SPC

Engineering Technology

2015-16 Alumni Survey Report

Survey of 2014-15 Graduates

- *A.S. Degrees: Aviation Maintenance Management, Engineering Technology*
- *Certificates: Computer-Aided Design and Drafting, Engineering Technology Support, Lean-Six Sigma Green Belt, Medical Quality Systems, Rapid Prototyping and Design, Six Sigma Black Belt*

Alumni Survey Information

Graduates are sent one survey to complete, even in cases where they may have earned multiple degrees within the same year. In these cases, the reported number of surveys sent and responses received are counted once per degree or certificate awarded to the student.

Eighty-eight Alumni Surveys were provided to the 2014-15 graduates of the Engineering Technology program. Responses were received from 1 A.S. graduate and 4 Certificate completers.

Six percent (5/88) of the graduates surveyed responded to the survey. None of the graduates provided permission and sufficient information to contact their employers, so no employer surveys were sent out. Not all respondents answer every survey question; therefore, the percentages listed below represent the responses to each survey question in relation to the total number of responses received for each question.

Notable results include:

- 100.0% (3/3) of recent graduate survey respondents, who were employed, were employed full-time.
- 33.3% (1/3) of recent graduate survey respondents had a current position related to their studies.
- 40.0% (2/5) of recent graduate survey respondents indicated their main goal in completing a degree or certificate at SPC was to *"Change career fields"*; 20.0% (1/5) *"Get a promotion"*; 20.0% (1/5) *"Meet certification/training needs"*; and 20.0% (1/5) *"Continue my education"*.
- 50.0% (2/4) of recent graduate survey respondents indicated that their SPC degree allowed them to *"Change career fields"*; 25.0% (1/4) *"Meet certification/training needs"*; 25.0% (1/4) *"Obtain employment"*; and 25.0% (1/4) *"Continue my education"*. [Note: The total may exceed 100% as this question allows multiple responses]
- 60.0% (3/5) of recent graduate survey respondents indicated that SPC did "*Very well"* in helping them meet their goal; while 40.0% (2/5) thought that SPC did not help at all.
- 66.7% (2/3) of recent graduate survey respondents indicated that they earned $25.00 or more per hour ($52,000 or more annually); and 33.3% (1/3) earned $10.00-$14.99 per hour ($21,000-$30,999 annually).

- 40.0% (2/5) of recent graduate survey respondents indicated they are continuing their education.
- 80.0% (4/5) of recent graduate survey respondents would recommend SPC's Engineering Technology program to another.
- An evaluation of Engineering Technology graduates' general education outcomes is displayed in Table 1. Graduates indicated high levels of satisfaction with their college preparation in the area of general education outcomes. One outcome received a mean score of 5.0, fourteen received mean scores between 4.5 and 4.8, and ten received mean scores between 4.0 and 4.3.

Table 1
College Preparation Ratings for Recent Engineering Technology Program Graduates

General Education Outcomes (Five point rating scale with five being the highest)	*Item Ratings*		
	N	*Mean*	*SD*
Communicating clearly and effectively with others through:			
Speaking	4	4.3	1.0
Listening	4	4.0	0.0
Reading	4	4.8	0.5
Writing	4	4.8	0.5
Your use of mathematical and computational skills:			
Comfortable with mathematical calculations	4	4.3	1.0
Using computational skills appropriately	4	4.5	0.6
Accurately interpreting mathematical data	4	4.5	0.6
Using the following forms of technology:			
Email	4	4.3	1.0
Word Processing	4	4.3	1.0
Spreadsheets	4	4.0	1.2
Databases	4	4.0	1.2
Internet Research	4	4.3	1.0
Thinking logically and critically to solve problems:			
Gathering and assessing relevant information	4	4.5	0.6
Inquiring about and interpreting information	4	4.5	0.6
Organizing and evaluating information	4	4.5	0.6
Analyzing and explaining information to others	4	4.5	0.6
Using information to solve problems	4	4.5	0.6

General Education Outcomes (Five point rating scale with five being the highest)	Item Ratings		
	N	Mean	SD
Working effectively with others in a variety of settings:			
Participating as a team player (e.g., group projects)	4	4.8	0.5
Working well with individuals from diverse backgrounds	4	4.8	0.5
Using ethical courses of action	4	5.0	0.0
Demonstrating leadership skills	4	4.3	0.5
Appreciating the importance of lifelong learning:			
Showing an interest in career development	4	4.5	0.6
Being open to new ideas and challenges	4	4.5	0.6
Willingness to take on new responsibilities	4	4.5	0.6
Pursuing additional educational opportunities	4	4.3	0.5

St. Petersburg College
SPC

Engineering Technology

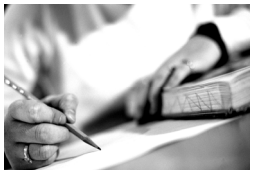
2015-16 Employer Survey Report

Employer Survey of 2014-15 Graduates

Employer Survey Information

Although employers are surveyed one time per graduate, some graduates may have earned multiple awards. Therefore, the number of surveys administered and responses received are reported for each degree or certificate the student was awarded.

Employer Surveys are sent out based on the permission provided by recent graduates in the 2014-15 recent graduate survey. Since permission was not received from recent graduates, there is no Employer Survey information available.



Program Action Plan

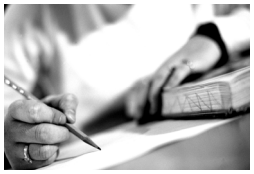
Program: Engineering Technology, AS

Date Completed: October 2018

Prepared By: Lara Sharp

I. Action Plan Items:

	Action Item	Measure Addressed	Completion Date	Responsible Party
1	Increase retention and progression within Engineering subplans by 1%.	Graduates	Summer 2019	Sharp Middleton
2	Ensure that students are taking engineering core with their subplan's courses to ensure timely graduation.	Graduates	Summer 2019	Sharp Middleton
3	Decrease the number of W or WF grades awarded by 2%.	Performance	Summer 2019	Sharp Middleton

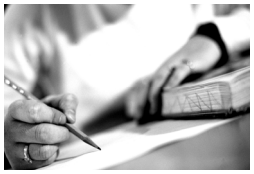


II. Special Resources Needed:

- Direct marketing of the existing and new Engineering program
- Renovation of the existing CC building on Clearwater campus to better serve program needs
- Lab assistant to support lab based activities

III. Area(s) of Concern/Improvement:

- Physical limitation for lab space
- Monitor existing electronics program to improve growth and create a novel niche



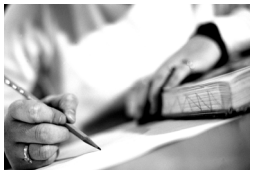
References

Rule 6A-14.060(5). *Florida Administrative Code, Accountability Standards.* Retrieved February 2018, from the Division of Community Colleges Web site: https://www.flrules.org/gateway/ruleno.asp?id=6A-14.060

Contact Information

Please address any questions or comments regarding this evaluation to:

Magaly Tymms, M.A.
Director, Institutional Effectiveness
St. Petersburg College, P.O. Box 13489, St. Petersburg, FL 33733
(727) 341-3195
tymms.magaly@spcollege.edu



Appendices

PROGRAM OF STUDY

Engineering and Building Arts Department
Engineering Technology Associate in Science
ENG-AS

Effective Catalog Term: Fall 2017 (0535) through Present (CIP# 1615000001)

The requirements below may not reflect degree requirements for continuing students. Continuing students should visit **My SPC** and view **My Learning Plan** to see specific degree requirements for their effective Catalog term.

Program Leadership Information

Lara Sharp, Program Director - CL Engineering Technology
sharp.lara@spcollege.edu
727-791-2642

Program Summary

***** THIS PROGRAM IS NO LONGER ADMITTING STUDENTS INTO THE MEDICAL QUALITY SYSTEMS (BIOM) SUBPLAN. LAST ADMISSION TERM IS SUMMER 2017 (0530) *****

This degree is a sequence of instruction with three specializations to choose from: electronics, quality (Lean and Six Sigma), and digital design and modeling. All engineering technology students take a common core of six classes (18 credit hours) that gives them backgrounds in safety, quality assurance, metrology, CAD, electronics, and materials. Students will start taking classes in their specialization right away along with their core and general education courses. There are opportunities to gain industry certifications, attend guest lectures, participate in field trips to local employers, and network with other students. Internships are also available and required for electronics and digital design and modeling.

Our mission is to provide hands-on, relevant coursework in a supportive and creative learning environment. We will prepare students for employment, or provide additional training for currently employed students, in manufacturing, healthcare, electronics, aerospace, or other related industries.

The 18 credit hour technical core has also been aligned with the Manufacturing Skills Standards Council's (MSSC) Certified Production Technician (CPT) certification. After completing the core courses, students will be eligible to take the four exams for CPT certification. The graduates of the Engineering Technology A.S. Program can transfer to universities and colleges offering the B.S. degree in Engineering Technology.

The **Academic Pathway** is a tool for students that lists the following items:
• the recommended order in which to take the program courses
• suggested course when more than one option exists
• which semester each course is typically offered
• if the course has a prerequisite
• courses that may lead to a certificate (if offered in the program)

If you are starting the program this term, click here to access the recommended Academic Pathway.

If you have already started the program, click here for the archived Academic Pathways.

Please verify the Academic Pathway lists your correct starting semester.

Job-Related Opportunities

Students with an Engineering Technology A.S. degree qualify for positions like electronics technician, electronics repair, electronics assembly and testing, CAD designer, CAD drafter, Rapid prototyper and designer, mechanical part designer, quality assurance technician, quality assurance manager, quality control inspector, Lean/Six Sigma group leader, biomedical device repair, biomedical device technician.

AS GENERAL EDUCATION REQUIREMENTS **Communications - Composition I**		**Credits**
	Complete 3 credits from the approved General Education Composition I coursework. Minimum grade of "C" required. This requirement must be completed within the first 24 credits of coursework toward the AS degree.	3
Total Credits		**3**

AS GENERAL EDUCATION REQUIREMENTS **Communications - Speech**		**Credits**
	Complete 3 credits from the approved General Education Speech coursework . Minimum grade of "C" required.	3
Total Credits		**3**

AS GENERAL EDUCATION REQUIREMENTS **Social and Behavioral Sciences**		**Credits**
	Complete 3 credits from the approved General Education Social and Behavioral Sciences coursework. Minimum grade of "C" required.	3
Total Credits		**3**

AS GENERAL EDUCATION REQUIREMENTS **Humanities and Fine Arts**		**Credits**
	Complete 3 credits from the approved General Education Humanities and Fine Arts coursework. Minimum grade of "C" required.	3
Total Credits		**3**

AS GENERAL EDUCATION REQUIREMENTS **Mathematics**		**Credits**
	Complete 3 credits from the approved General Education Mathematics coursework. Minimum grade of "C" required.	3
Total Credits		**3**

AS GENERAL EDUCATION REQUIREMENTS **Ethics**		**Credits**
	Complete 3 credits from the approved General Education Ethics coursework. Minimum grade of "C" required.	3

Total Credits		**3**

AS GENERAL EDUCATION REQUIREMENTS **Computer/Information Literacy Competency**		**Credits**
	Competency may be demonstrated by completing the Computer Information and Literacy Exam (CGS 1070T) OR by successful completion of one of the approved Computer/Information Literacy Competency courses. No minimum credits required.	
Total Credits		**0**

AS GENERAL EDUCATION REQUIREMENTS **Enhanced World View**		**Credits**
	Complete at least one 3-credit course intended to enhance the student's world view in light of an increasingly globalized economy. Minimum grade of "C" required. In some cases, this course may also be used to satisfy another General Education Requirement.	
Total Credits		**0**

MAJOR CORE COURSES **Technology Core (Complete 18 credits)**		**Credits**
EET 1084 C	Introduction to Electronics	3
ETD 1320 C	Introduction to CAD	3
ETI 1110	Introduction to Quality Assurance	3
ETI 1420	Manufacturing Processes and Materials I	3
ETI 1701	Industrial Safety	3
ETM 1010 C	Mechanical Measurement and Instrumentation	3
Total Credits		**18**

SUBPLAN **Select one subplan from below (Complete 24 credits)**		**Credits**
Total Credits		**24**

SUBPLAN CORE COURSES **Subplan: Electronics (ELEC) (Complete 24 credits)**		**Credits**
CET 1114 C	Digital Fundamentals with Lab	4
EET 1015 C	DC Circuit Analysis with Lab	4
EET 1025 C	AC Circuit Analysis with Lab	4
EET 1205 C	Electronic Instrumentation	1
EET 2140 C	Solid State Electronics with Lab	4
EET 2155 C	Linear Integrated Circuits with Lab	4
EET 2949	Co-op Work Experience	3

SUBPLAN CORE COURSES **Subplan: Quality (QUAL) (Complete 24 credits)**		**Credits**
ETI 1622	Concepts of Lean and Six Sigma	3

ETI 1628	Developing & Coaching Self-Directed Work Teams	3
ETI 2610	Principles of Six Sigma	3
ETI 2619	Six Sigma Project Management	3
ETI 2623	Tools for Lean Manufacturing	3
ETI 2624	Six Sigma Black Belt Concepts	3
ETI 2626	Six Sigma Capstone Project	3
ETI 2670	Technical Economic Analysis	3

SUBPLAN CORE COURSES **Subplan: Digital Design and Modeling (DDM) (Complete 18 credits)**		**Credits**
ETD 1340 C	AutoCAD II	3
ETD 1350 C	AutoCAD III 3-D Modeling	3
ETD 2364 C	Introduction to SolidWorks	3
ETD 2368 C	Advanced Solidworks	3
ETD 2369 C	SolidWorks Advance Applications	3
EET 2949	Co-op Work Experience	3

SUBPLAN ELECTIVE COURSES **Subplan: Digital Design and Modeling (Select 6 credits)**		**Credits**
	Complete 6 credits of ETD prefix courses not required as Subplan Core Courses.	6

SUBPLAN CORE COURSES **Subplan: Medical Quality Systems (BIOM) (Complete 24 credits)**		**Credits**
ETI 1030	Regulatory Environment for Medical Devices	3
ETI 1622	Concepts of Lean and Six Sigma	3
ETI 1628	Developing & Coaching Self-Directed Work Teams	3
ETI 2031	Risk Management and Assessment for Medical Devices	3
ETI 2032	Change Control and Documentation	3
ETI 2041	Medical Device Design and Manufacturing	3
ETI 2171	Quality Auditing for Medical Devices	3
EET 2949	Co-op Work Experience	3

Total Credits	**60**

PID 541

Program Assessment Report

Program: Engineering Technology
Report Year: 2016-17

Drafted by Lara Sharp on Jul 25, 2017

Data Files

ET Data File 2015-2017

Overall Introduction

In support of the mission of St. Petersburg College, faculty committees established thirteen value statements. Three of these value statements are:

- Student Focus: We believe students are the heart of SPC! All SPC resources, decisions, and efforts are aligned to transform students' lives to empower them to finish what they start!
- Academic Excellence: We promote academic excellence through interactive, innovative, and inquiry-centered teaching and learning.
- Culture of Inquiry: We encourage a data-driven environment that allows for open, honest dialogue about who we are, what we do, and how we continue to improve student success.

It is the intent of St. Petersburg College to incorporate continuous improvement practices in all areas. Assessment reports provide comparisons of present and past results which are used to identify topics where improvement is possible. SPC has traditionally used past results as a vital tool in achieving its commitment to continuous improvement.

Program Learning Outcomes

#1: Demonstrate the ability to plan and manage assigned activities effectively, using industry standards.

I. Use of Past Results

The assessment results for PLO-1 were obtained from the employer assessment of the students enrolled in the EET 2949, CO-OP course. All the students who completed this assessment achieved a mean score above the criteria set for the outcome.

II. Methodology

Means of Assessment: Students enrolled in any of the three sub-plans within the Engineering Technology A.S. degree program are assessed using an End of Program - Cooperative Education Review assessment. The three sub-plans available within the degree are Electronics, Digital Design and Modeling, and Biomedical Systems.

Date(s) of Administration: Spring 2015 - Summer 2017

Assessment Method: The End of Program - Cooperative Education Review assessment was developed by the Engineering Technology faculty after informal discussions with the members of the Engineering Technology Advisory Committee, and with industry professionals who have participated in the co-op program. The purpose of the assessment is to test students' proficiency in the areas of focus within the core courses.

The co-op employers conduct the assessment and send the completed form to the department of Engineering Technology at the end of the session in which the student is graduating. After reviewing the data with the instructional staff and the Engineering Technology Advisory Committee, the department implements any necessary changes to ensure that the program is responding to the ever-changing needs of the industry, and to provide the best possible education to the students. Working individually with co-op students and their employers allows the department to assess the effectiveness of the curriculum on a continual basis. Because the employer is an active participant in the

co-op, they are willing to share their ideas about strengths and weaknesses of the program.

Assessment Instrument: The End of Program assessment instrument consists of 4 sections and an overall score. Each section also allows for employers to provide written feedback. There are four questions that relate to PLO #1.

Scoring Method: The assessment is scored by the co-op employer using the four-point Likert scale described below.

3 - Exceeded Standards - performs above the stated job description

2 - Met Standards – complies with the stated job description

1 - Below Standards – job performance is unacceptable

0- N/A

Population: The population sample included students who successfully completed the Associate in Science degree in Engineering Technology, and the co-op.

III. Criteria for Success

Students should rate a mean score of 2.0 or greater on questions 1 through 4 of the End of Program assessment.

IV. Summary of Assessment Findings

Results via Face-to-Face

Semester	Mean Score	Standard Deviation	#students
Spring 2015	2.69	.47	4
Summer 2015	2.67	.58	3
Fall 2015	3.00	0	2
Spring 2016	2.38	.54	6
Summer 2016	2.88	.25	4
Fall 2016	2.63	.30	8
Spring 2017	2.56	.40	12
Summer 2017	2.25	.65	4

Results via Distance Delivery (Online, Blended, etc)

Assessment was administered in a course that is taught exclusively face-to-face, there were no online sections.

V. Discussion and Analysis of Assessment Findings

The mean score for each semester from spring 2015 through summer 2017 was well above the required 2.0 for PLO #1. This indicates that students successively demonstrated the ability to manage and plan their assigned projects during their co-op. While student scores have remained above the criteria, scores have decreased over the previous 3 semesters which is a trend the program will monitor.

VI. Action Plan and Timetable for Implementation

Based on the analysis of the results the following Action Plan Items have been selected for implementation:

- Questions will be reviewed and revised to be more measurable and relevant to a work experience. PLO #3 especially needs revisions and more questions added.
  - Lara Sharp / Jan 2018

#2: Works and performs task effectively to meet deadlines, using professional industry standards.

I. Use of Past Results

The assessment results for PLO-2 were obtained from the employer assessment of the students enrolled in the EET 2949, CO-OP course. All the students who completed this assessment achieved a mean score above the criteria set for the outcome.

II. Methodology

Means of Assessment: Students enrolled in any of the three sub-plans within the Engineering Technology A.S. degree program are assessed using an End of Program - Cooperative Education Review assessment. The three sub-plans available within the degree are Electronics, Digital Design and Modeling, and Biomedical Systems.

Date(s) of Administration: Spring 2015 - Summer 2017

Assessment Method: The End of Program - Cooperative Education Review assessment was developed by the Engineering Technology faculty after informal discussions with the members of the Engineering Technology Advisory Committee, and with industry professionals who have participated in the co-op program. The purpose of the assessment is to test students' proficiency in the areas of focus within the core courses.

The co-op employers conduct the assessment and send the completed form to the department of Engineering Technology at the end of the session in which the student is graduating. After reviewing the data with the instructional staff and the Engineering Technology Advisory Committee, the department implements any necessary changes to ensure that the program is responding to the ever-changing needs of the industry, and to provide the best possible education to the students. Working individually with co-op students and their employers allows the department to assess the effectiveness of the curriculum on a continual basis. Because the employer is an active participant in the co-op, they are willing to share their ideas about strengths and weaknesses of the program.

Assessment Instrument: The End of Program assessment instrument consists of 4 sections and an overall score. Each section also allows for employers to provide written feedback. There are five questions that relate to PLO #2.

Scoring Method: The assessment is scored by the co-op employer using the four-point Likert scale described below.

3 - Exceeded Standards - performs above the stated job description

2 - Met Standards – complies with the stated job description

1 - Below Standards – job performance is unacceptable

0- N/A

Population: The population sample included students who successfully completed the Associate in Science degree in Engineering Technology, and the co-op.

III. Criteria for Success

Students should rate a mean score of 2.0 or greater on questions 5 through 9 of the End of Program assessment.

IV. Summary of Assessment Findings

Results via Face-to-Face

Semester	Mean Score	Standard Deviation	#students
Spring 2015	2.75	.50	4

Summer 2015	2.60	.69	3
Fall 2015	2.90	.14	2
Spring 2016	2.43	.59	6
Summer 2016	3.00	0	4
Fall 2016	2.73	.37	8
Spring 2017	2.55	.44	12
Summer 2017	2.50	.42	4

Results via Distance Delivery (Online, Blended, etc)

Assessment was administered in a course that is taught exclusively face-to-face, there were no online sections.

V. Discussion and Analysis of Assessment Findings

The mean score for each semester from spring 2015 thru summer 2017 was well above the required 2.0 for PLO #2. This indicates that students are working effectively to perform tasks and to meet their co-op deadlines. Students' scores varied throughout the semesters that were assessed, no definite trend was noted between semesters.

VI. Action Plan and Timetable for Implementation

Based on the analysis of the results the following Action Plan Items have been selected for implementation:

- Questions will be reviewed and revised to be more measurable and relevant to a work experience. PLO #3 especially needs revisions and more questions added.
  - Lara Sharp / Jan 2018

#3: Demonstrates effective oral and written communication skills in a work related environment, using professional industry standards.

I. Use of Past Results

The assessment results for PLO-3 were obtained from the employer assessment of the students enrolled in the EET 2949, CO-OP course. All the students who completed this assessment achieved a mean score above the criteria set for the outcome.

II. Methodology

Means of Assessment: Students enrolled in any of the three sub-plans within the Engineering Technology A.S. degree program are assessed using an End of Program - Cooperative Education Review assessment. The three sub-plans available within the degree are Electronics, Digital Design and Modeling, and Biomedical Systems.

Date(s) of Administration: Spring 2015 - Summer 2017

Assessment Method: The End of Program - Cooperative Education Review assessment was developed by the Engineering Technology faculty after informal discussions with the members of the Engineering Technology Advisory Committee, and with industry professionals who have participated in the co-op program. The purpose of the assessment is to test students' proficiency in the areas of focus within the core courses.

The co-op employers conduct the assessment and send the completed form to the department of Engineering Technology at the end of the session in which the student is graduating. After reviewing the data with the instructional staff and the Engineering Technology Advisory Committee, the department implements any necessary changes to ensure that the program is responding to the ever-changing needs of the industry, and to provide the best possible

education to the students. Working individually with co-op students and their employers allows the department to assess the effectiveness of the curriculum on a continual basis. Because the employer is an active participant in the co-op, they are willing to share their ideas about strengths and weaknesses of the program.

Assessment Instrument: The End of Program assessment instrument consists of 4 sections and an overall score. Each section also allows for employers to provide written feedback. There are two questions that relate to PLO #3.

Scoring Method: The assessment is scored by the co-op employer using the four-point Likert scale described below.

3 - Exceeded Standards - performs above the stated job description

2 - Met Standards – complies with the stated job description

1 - Below Standards – job performance is unacceptable

0- N/A

Population: The population sample included students who successfully completed the Associate in Science degree in Engineering Technology, and the co-op.

III. Criteria for Success

Students should rate a mean score of 2.0 or greater on questions 10 and 11 of the End of Program assessment.

IV. Summary of Assessment Findings

Results via Face-to-Face

Semester	Mean Score	Standard Deviation	#students
Spring 2015	1.88	.48	4
Summer 2015	2.67	.58	3
Fall 2015	2.25	1.06	2
Spring 2016	2.25	.88	6
Summer 2016	2.88	.25	4
Fall 2016	2.75	.38	8
Spring 2017	2.42	.79	12
Summer 2017	2.38	.48	4

Results via Distance Delivery (Online, Blended, etc)

Assessment was administered in a course that is taught exclusively face-to-face, there were no online sections.

V. Discussion and Analysis of Assessment Findings

The mean score for each semester from summer 2015 thru summer 2017 was well above the required 2.0 for PLO #3 except for Spring 2015 which had a mean score below 2.0. Even though the mean score for the majority of the other semesters was over 2.0, individual scores varied quite a bit as seen by the standard deviation in some cases.

For example, in fall 2015 the mean score was 2.25, but the standard deviation was 1.06. This indicates that some of the fall 2015 students didn't meet the minimum required 2.0 for this PLO. There are only two questions for this PLO in the assessment, which may contribute to the standard deviations recorded. Increasing the number of questions and making them more measurable may lower the standard deviation and increase the mean score.

VI. Action Plan and Timetable for Implementation

Based on the analysis of the results the following Action Plan Items have been selected for implementation:

- Questions will be reviewed and revised to be more measurable and relevant to a work experience. PLO #3 especially needs revisions and more questions added.
  - Lara Sharp / Jan 2018

Action Plan

Category	Action Plan Detail / Implications	For PLO	Responsible Party / Due Date
D. Improve Assessment Methodology			
D3.	**Review, revise Assessment Specifications Plan**		
	Questions will be reviewed and revised to be more measurable and relevant to a work experience. PLO #3 especially needs revisions and more questions added.	#1, #2, #3	Lara Sharp Jan 2018
E. None			
E1.	**No Action Plan is deemed necessary**		
	No Action Plan is deemed necessary		

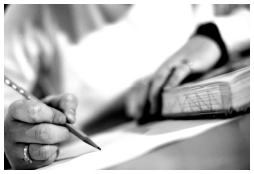
Approvals

Program Administrators:
Lara Sharp - Program Dir, Engineering Tech
Natavia Middleton - Dean,Natural Science & Engr
Approved by Lara Sharp - Program Dir, Engineering Tech on Jul 25, 2017

Educational Outcomes Coordinators:
Joe Boyd - Coord, Accredtn&BaccAssessment
Magaly Tymms - Assessment Director
Approved by Joe Boyd - Coord, Accredtn&BaccAssessment on Jul 28, 2017

Dean:
Natavia Middleton - Dean,Natural Science & Engr
Approved by Natavia Middleton - Dean,Natural Science & Engr on Jul 28, 2017

Senior Vice President:
Anne Cooper - Senior VP Instruction and Academic Programs
Approved by Anne Cooper - Senior VP Instruction and Academic Programs on Jul 31, 2017



Appendix C: 2017 Advisory Committee Minutes and Recommendations

Advisory Board Meeting Minutes for March 2017 and August 2017 are provided within this Appendix.

For additional Advisory Board Committee Minutes and Recommendations, please refer to the following link: http://www.spcollege.edu/friends-partners/work-with-spc/advisory-committees

Meeting Minutes

Engineering Technology Advisory Board Meeting

August 9, 2017
4:00pm-5:00pm
CR-144 (Clearwater Campus)

In attendance: Louis Grilli, Becky Burton, Scott Talcott, Matthew Smith, Lisa Maciolek, Edwin Homan, Susan Garrett, Susan Biszewski-Eber, Natavia Middleton, Jerry Custin, Mike Brewster, Mike Smith, Ron Varghese, Joann Wright, Lara Sharp

Not in attendance: Brian Bell, David Reese, Dean Rock, Donald Houdek, Eric LeTourneur, Greg Lewis, Greg Seay, Ken Conforti, Marcos Cabrera, Peter Buczynsky, Steve Askew, Steve Heppler, Dennis Daniels, Michelle Hintz-Prange, Tim Nemes, Rodney Rohrs, Nancy Crews, Melissa Lostraglio, Pam Temko, Diane Hufford, Andy Malcolm, Jim Gilmour, Bob Castro, Brenda Skinner, Kozitte Kaun, Stefanie Bischoff, Diane Spaulding, Francois DeForges, Grace Smoker, Joe Moretti, Marta Przyborowski, Lannette Reeves, Belinda Duclos

Engineering Technology and Workforce Institute Update

Engineering Technology Program and Space Update—Lara Sharp, SPC

New space for the SPC Electronics Program. The lab and the classroom are now in the same place. This gives instructors more flexibility. Better utilization of space. SPC now seeing a growth in the Electronics Program. This is in part due to ITT closing down. The Biomedical engineering technology (BMET) moved out of Clearwater and now is housed in Tarpon Springs.

There is now a new HAAS mini mill CNC machine in the CC building on the Clearwater Campus. It is being used primarily for rapid prototyping.
We also have a new 3D printer that can print in composite materials and new woodworking equipment. This effort underscores SPC commitment to the expanding opportunities for students and give the engineering technology and building arts programs a workshop for project work.

Workforce Institute Update—Susan Garrett, SPC

Partnership with BRAAS on Douglas Road in Oldsmar, will be providing training for PLCs that will include 12 hours of online prep work, 15 hours intensive lab time, and 3 hours of online preparation for the PMMI certification exam. The BRAAS Application Engineer will be teaching the PLC curriculum. We have been receiving strong interest from the community.
The online portion will be available for two weeks prior to the intensive labs. The labs will be offered 1-4 or 5-8 for five days of each month. The program has the capacity for 48 students total 24 per cohort.

Also Susan and Belinthia Berry from Workforce Institute secured a meeting with Pinellas County Government to investigate how we can train county staff to support infrastructure.

Grants—Lara Sharp and Susan Biszewski-Eber, SPC

The Florida Job Growth Grant is $85 million being allocated in a number of areas. A portion has been put aside for workforce training with the stipulation that it be linked to a college. SPC, in partnership with Pinellas Technical College (PTC), submitted a grant proposal for modularized online mechatronics training which also connects to an open lab. It is

training provided in an open entry - open exit format. Polk State College used this type of training and it is a proven concept. The student can come in when they want and take the class on their time frame. They can move through it as quickly and as slowly as they desire. They can select specific modules to meet their needs. SPC also included a line item to secure equipment.
PTC will provide machining training and the main certification is PMMI, MSSC, and NIMS. All coursework will be articulated to a new mechatronics subplan in the Engineering Technology AS degree program. Credit based courses in mechatronics are scheduled to start in Fall 2019.

We have also been approached by Duke Energy to provide lineman training as a possible PSAV program.

Apprenticeship Grant-- addressed how the Apprenticeship Program will work with Mechatronics as a competency based apprenticeship. Formerly it was 8000 hours, but competency means it needs to be at least 2000 hours. There are standards out there so the paperwork would be minimal. SPC is looking into potentially becoming a Registered Apprenticeship site. If so all paperwork would be filled out by the college. If an employer is interested in becoming a registered apprenticeship program, please email Susan Biszewski-Eber at biszewskieber.susan@spcollege.edu.

Discussion about securing faculty with the right credentials to teach in an engineering technology program is a challenge. Faculty would need to have a master's degree. Technical schools like Pinellas Technical College do not have to abide by these same credentialing processes.

Future—Lara Sharp, SPC
The question was posed to the Advisory Board as to what they think might be missing. For example: Soldering - We have the equipment. We are looking for someone to teach a course.

Joe Benavides, SPC career services, asked the Advisory Board about opportunities for interns and graduates. One of the members mentioned that having keywords on their resume would help the hiring managers and HR.

Another company is working on a current project that must have security clearance.

Mike Brewster, Monin, agreed to be the industry chair for the advisory board.

Announcements--
Engineering, Manufacturing, and Building Arts Open House is November 15th from 4:30pm-7pm at the CC building on the Clearwater Campus.

Fall STEM Festival is Saturday, October 21 from 10am-2pm on the Clearwater Campus. ALL are welcome.

BAMA is sponsoring the Made in Tampa Bay Expo on October 19th from 3pm-7pm at HCC.

Manufacturing/Supply Chain Career Fair, October 24th from 11:30am-3:30pm at PTC Clearwater.

Meeting adjourned at 5:00pm

Meeting Minutes

Engineering Technology Advisory Board Meeting

March 2, 2017
10:30am-11:30am
CR-170 (Clearwater Campus)

In attendance: Lara Sharp, Scott Talcott, Michelle Hintz-Prange, Joann Wright, Gary Breton, Ken Conforti, Lenore Swaim, Susan Biszewski-Eber, Jerry Custin, Nancy Crews, Diane Spaulding, Brian Bell, Belinda Duclos, Joseph Benavides, Becky Burton, Mike Smith, Susan Garrett

Absent: Dan Bloom, David Reese, Dean Rock, Donald Houdek, Edwin Homan, Eric LeTourneur, Greg Lewis, Greg Seay, Lisa Maciolek, Lou Gilli, Marcos Cabrera, Matthew Smith, Mike Brewster, Peter Buczynsky, Steve Askew, Steve Heppler, Dennis Daniels, Chris Baumann, Jack Berg, Tim Nemes, Natavia Middleton, Dee Mortellaro, Rodney Rohrs, Melissa Lostraglio, Pam Temko, Diane Hufford, Andy Malcolm, Jim Gilmour, Bob Castro, Brenda Skinner, Kozitte Kaun, Stefanie Bischoff, Francois DeForges, Grace Smoker, Joe Moretti, Marta Przyborowski, Lannette Reeves

10:30AM Welcome and Introductions

10:40AM Career and Academic Communities at St. Pete College

--This was the first meeting of the combined advisory boards for engineering technology and the FloridaTrade grant.

--A program review was done for new members. The new community structure was also introduced. Similar programs and careers have been grouped into communities. Engineering, Manufacturing, and Building Arts is the new community name. It includes Engineering Technology AS, Engineering Transfer AA, Architecture Transfer AA, Architectural Design and Construction Technology AS, Drafting and Design AS, and Biomedical Engineering Technology AS.

--Reviewed enrollment with the board. Noted that Engineering Technology was down ~3% in 2016. The College was down ~5% for 2016. The decrease is mostly due to fewer

electronics students. There was actually an increase in students in the digital design and modeling and quality subplans for 2016. A recruitment plan that included hiring a part-time temporary assistant to develop new marketing material, direct distribution of new marketing material, and more college and high school events was presented to the board.

Susan Biszewski-Eber, Apprenticeship Coordinator explained the Apprenticeship Initiative and addressed how it could work with existing A.S. degree programs in terms of articulating apprenticeship credit. This opened the discussion to skills that manufacturers are looking for in an employee.

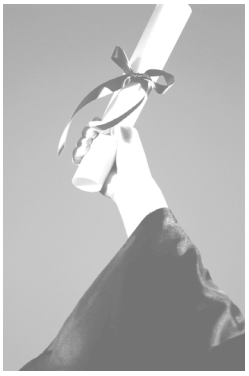
10:50AM Engineering Technology 5 year plan

--Ms. Sharp, program director, presented engineering technology's 5 year plan to the board (see attached). The rapid prototyping/digital design program is being expanded with new equipment (HAAS mini-mill, wood working tools, and a new 3D printer) and a new rapid prototyping II elective to start Spring 2018. Two new engineering technology subplans will be added: Digital Manufacturing and Advanced Manufacturing (Mechatronics—aka electro-mechanical technician). Additional Lean and Six Sigma courses will be added to the Quality subplan to encourage students to finish the engineering technology AS degree. A new electronics certificate will be added (Fall 2017) to provide engineering technology electronics students a micro-credential while working towards their degree. The engineering technology biomedical systems and medical quality systems programs will be discontinued (Fall 2017) due to low enrollment and to focus on the Biomedical Engineering Technology AS program. The BS in engineering technology was suggested but will depend on future enrollment and legislative actions.

11:10AM Mechatronics—Workforce Institute and Engineering Technology Collaboration

--Ms. Sharp and Ms. Susan Garrett, Program Director for Workforce Institute, announced the creation of an Electro-Mechanical Technician program at SPC. The program will focus on PLCs, Automation, Fluid Power, and Motors and Controls. The program will start as non-credit training in the Workforce Institute and it will be a phased program starting with PLC training. The next phases will be motors and controls, automation, and fluid power. The Workforce Institute is looking at a late summer start. While training starts on the non-credit side, Ms. Sharp will be developing the new engineering technology subplan for the credit side. Students will be able to articulate their non-credit training into the engineering technology AS program. The AS degree will include all the same content as the non-credit training as well as general education courses and possible support courses in computers and lean six sigma. The proposed start date for the new AS degree subplan is Fall 2018. The AS degree subplan has been approved by the VP of Curriculum. The board was advised that their input into the curriculum will be crucial for developing a relevant program.

11:30AM Adjourn



SPC