PALM BEACH STATE COLLEGE

PHYSICS CLUSTER MEETING MINUTES
Monday, January 5, 2015 9:00-12:00 PM
Lake Worth Campus Room NS 124

ITEM 1. General Natural Science Cluster meeting:

Carlos Ramos opened the meeting and briefly discussed the following issues:

- The study abroad Oceanography Course, OCE 1001, was converted to a regular class because there were not enough students enrolled for the trip in December. He also indicated that he had discussed with Kathy Gamble the previous concerns that Study Abroad courses be brought to the clusters for approval prior to being offered. He indicated that Dr. Pedersen will be bringing this issue to the attention of the Study Abroad Program.
- Professor Ramos also stated that the Natural Science Cluster's proposed changes to the policies regarding science lecture and co-requisite labs withdrawals (from the October, 2014 cluster meeting) will be brought to the Dean's Counsel by Dr. Berkowitz.

ITEM 2. Textbooks

Discussion:

Professor Waweise Schmidt stated that the 7th edition of the textbook for OCE 1001, Invitation to Oceanography, by Pinet is now available and will be in use beginning next Fall.

Professor Marie Grasso stated that the 12th edition of the Hewitt textbook for PSC 1341 is now available and will be the required text for next Fall. Professor Miner indicated that he is already using that textbook for this Spring.

Action:
The attached Master Textbook list has been changed to include the new editions of the Pinet and Hewitt textbooks.

ITEM 3. Consideration of new Engineering Technology Program

Professor Oleg Andric presented a brief summary of a new Engineering Technology Program that will culminate in an AS degree. He indicated that he had been tasked by the Palm Beach Gardens campus to develop the program and had received twelve letters of support from technology companies for the program. The program will include three different tracks, electronic energy systems, alternative energy systems and advanced technology. Professor O'Brien stated that this would be a very good program because of the need for employees with these types of qualifications by electrical power companies. Professor Andric also indicated that Daytona State College offers a Bachelors degree in Engineering Technology and would accept our AS degree graduates into their program. The course list and degree track information submitted to the Curriculum Committee for approval is attached.

Action:

Once discussion was completed the cluster voted to accept the program in a unanimous vote of 8-0.

ITEM 3. Student Evaluation of Courses

Discussion/Results:

There was discussion amongst the cluster members regarding the current system of course evaluations by the students. Many of the cluster members agreed that the idea of offering extra credit to induce students to complete the evaluations is not acceptable. Professor O'Brien indicated that he would like to return to using the paper method of course evaluation in the classroom or that there be a mandated requirement that students complete the course evaluation to get a better response without giving them extra credit.

No other business was discussed and the meeting was adjourned.

ATTENDANCE: Lilian Jordan, Marie Grasso, Oleg Andric, Jeffrey Sundquist, Jerry O'Brien, William Miner, Waweise Schmidt, Steven Stemle, Carlos Ramos

Submitted by:

Steven Stemle

Steven Stemle, Scribe

c. Minutes Distribution List

TEXTBOOK ADOPTIONS for the Academic Year – 2014-2015

Descriptive Astronomy

Course Title and Number: Descriptive Astronomy – AST 1002
Current Textbook: Astronomy: A Beginner's Guide to the Universe by Chaisson & McMillan, 7th Edition, ISBN-10 0321815351 / ISBN-13 978-0-321-815354
Publisher: Addison-Wesley **Copyright**: September 2012
First Semester for Current Edition: Fall 2012
Last Semester for Current Edition: Unknown

Textbook used by Professor Lilian R. Jordan only
Course Title and Number: Descriptive Astronomy – AST 1002
Current Textbook: Discovering the Essential Universe by Commins, 3th Edition, ISBN 071674595X
Publisher: W. H. Freeman **Copyright**:
First Semester for Current Edition: Fall 2005
Last Semester for Current Edition: Unknown

This supplement may be required by Professor Lilian R. Jordan
Course Title and Number: Descriptive Astronomy – AST 1002
Supplement: Lecture-Tutorials for Introductory Astronomy by Prather, Slater, Adams, and Brissenden, 2nd Edition, ISBN 9780132392266
Publisher: Addison-Wesley **Copyright:**
First Semester for Current Edition: Fall 2008
Last Semester for Current Edition: Unknown

Planetary Astronomy

Class discontinued by Physics Cluster 3/26/2014
Course Title and Number: Planetary Astronomy – AST 1003

Stellar and Galactic Astronomy

Class discontinued by Physics Cluster 3/26/2014
Course Title and Number: Stellar and Galactic Astronomy – AST 1004

Earth Science

Course Title and Number: Earth Science – ESC 1000
Current Textbook: Earth Science by Tarbuck, Lutgens, and Tasa, 14th Edition, ISBN-10 (soft cover version): 978-0-321-92809-2
Publisher: Pearson/Prentice Hall **Copyright**: 2012, 2015
First Semester for Current Edition: Fall 2014
Last Semester for Current Edition: Unknown

Earth Science (Study Guide available but not required)

Course Title and Number: Earth Science – ESC 1000
Study Guide: Study Guide by Hatfield and Pinzke, 13th Edition, ISBN-10: 0321714857 / ISBN-13: 9780321714857
Publisher: Pearson/Prentice Hall **Copyright**: 2012
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Unknown

Textbook required in Professor Jeffrey J. Sundquist's face-to-face class; optional for other sections.
Course Title and Number: Earth Science – ESC 1000
Current Textbook: Applications and Investigations in Earth Science by Tarbuck, 2nd custom edition for Palm Beach State College, ISBN-10: 1256067032/ISBN-13:9781256067030
Publisher: Pearson/Prentice Hall **Copyright**: 2012
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Summer 2014

Descriptive Geology

Course Title and Number: Descriptive Geology – GLY 1000
Current Textbook: Earth: An Introduction to Physical Geology by Tarbuck, 11th Edition, ISBN 13: 978-0-321-81406-7
Publisher: Pearson/Prentice Hall **Copyright**: January 2014
First Semester for Current Edition: Fall 2013
Last Semester for Current Edition: Unknown

Introduction to Oceanography

Course Title and Number: Introduction to Oceanography – OCE 1001
Current Textbook: Invitation to Oceanography by Paul R. Pinet, 6th Edition, ISBN 13: 978-1284040739
Publisher: Jones and Bartlett Learning
Copyright: 2013
First Semester for Current Edition: Fall 2012
Last Semester for Current Edition: Unknown

FOR Fall 2015
Course Title and Number: Introduction to Oceanography – OCE 1001
Current Textbook: Invitation to Oceanography by Paul R. Pinet, 7th Edition, ISBN 13: 978-1284057072
Publisher: Jones and Bartlett Learning
Copyright: 2015
First Semester for Current Edition: Fall 2015
Last Semester for Current Edition: Unknown

Applied Physics

Course Title and Number: Applied Physics – PHY 1001
Current Textbook: ***Physics Principals with Applications, by Douglas Giancoli, 7th edition, ISBN 10:0321625927; ISBN 13:878-0321625922***
Publisher: Pearson/Prentice Hall **Copyright**: 2014
First Semester for Current Edition: Spring 2014
Last Semester for Current Edition: Unknown

General Physics with Calculus I

Course Title and Number: General Physics with Calculus I – PHY 2048
Current Textbook: Physics for Scientists and Engineers by Serway & Jewett, 7th Edition, ISBN 0495747173 (customized version of the 7th edition for PBSC – Palm Beach State College)
Publisher: Cengage Learning **Copyright**: 2008
First Semester for Current Edition: Fall 2008
Last Semester for Current Edition: Unknown

General Physics I and General Physics with Calculus I Laboratory

Course Title and Number: General Physics I and General Physics with Calculus I Laboratory – PHY 2048L
Current Laboratory Manual: Physics Laboratory Experiments by Wilson, 6th Edition, ISBN 0618382593, ISBN 0618564276 (customized edition used at the Boca Raton campus)
Publisher: Houghton-Mifflin **Copyright**: 2005
First Semester for Current Edition: Fall 2006
Last Semester for Current Edition: Summer 2010

Course Title and Number: General Physics I with General Physics with Calculus I Laboratory– PHY 2048L
Current Textbook: PHY 2048L Lab Manual, *Fourth Edition*, by Carlos F. Ramos, ISBN 978-1-4652-4801-5
Publisher: Kendall Hunt Publishing Company
Copyright: 2009, 2011, 2013, 2014
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Unknown

General Physics with Calculus II

Course Title and Number: General Physics with Calculus II – PHY 2049
Current Textbook: Physics for Scientists and Engineers by Serway & Jewett, 7th Edition, ISBN 0495747173 (customized version of the 7th edition for PBSC – Palm Beach State College)
Publisher: Cengage Learning **Copyright**: 2008
First semester for Current Edition: Fall 2008
First semester for Current Edition: Unknown

General Physics II and General Physics with Calculus II Laboratory

Course Title and Number: General Physics II and General Physics with Calculus II Laboratory – PHY 2049L

Current Laboratory Manual: Physics Laboratory Experiments by Wilson, 6th Edition, ISBN 0618382593, ISBN 0618564276 (customized edition used at the Boca Raton campus)
Publisher: Houghton-Mifflin **Copyright**: 2005
First Semester for Current Edition: Fall 2006
Last Semester for Current Edition: Summer 2010

Note: Professors at the Lake Worth campus use the manual below.

Course Title and Number: General Physics II with General Physics with Calculus II Laboratory – PHY 2049L
Current Textbook: PHY 2049L Lab Manual, *Fourth Edition*, by Carlos Ramos, ISBN 978-1-4652-4802-2
Publisher: Kendall Hunt Publishing Company
Copyright: 2009, 2011, 2013, 2014
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Unknown

General Physics I

Course Title and Number: General Physics I – PHY 2053
Current Textbook: Physics by Cutnell & Johnson, Volume One, 8th Edition, ISBN 9781118306321 (customized version of the 8th edition for PBSC – Palm Beach State College)
Publisher: John Wiley & Sons. Inc. **Copyright**: 2012
First Semester for Current Edition: Fall 2012
Final Semester for Current Edition: Unknown

General Physics II

Course Title and Number: General Physics II – PHY 2054
Current Textbook: Physics by Cutnell & Johnson, Volume Two, 8th Edition, ISBN 9780470379257 (paperback)
Publisher: John Wiley & Sons. Inc. **Copyright**: 2009
First Semester for Current Edition: Fall 2009
Final Semester for Current Edition: Summer 2012

Physical Science for Today's World

Course Title and Number: Physical Science for Today's World – PSC 1341
Current Textbook: Conceptual Physics by Hewitt, 11th Edition, ISBN 13: 978-0-321-56809-0 or 12th edition ISBN 13: 978-0-321-935786
Publisher: Paul Hewitt/Addison Wesley **Copyright**:
First Semester for Current Edition: Fall 2010/Spring 2015
Last Semester for Current Edition: Unknown
Workbook: Practicing Physics
ISBN: 13:978-0-0321-66256-9

For Professor Jang-Young Bang classes:
Course Title and Number: Physical Science for Today's World – PSC 1341
Current Textbook: Conceptual Physics by Hewitt, 12th Edition bundled with "Mastering Physics" online, ISBN 13: 978-0-321-935786
Publisher: Paul Hewitt/Addison Wesley **Copyright**:
First Semester for Current Edition: Spring 2015
Last Semester for Current Edition: Unknown

Palm Beach State College
Program Addition
Curriculum Committee Form Submission Packet

Proposed New Program Title	Engineering Technology	Program Level	AS

Packet Contents

Curriculum Action Form – Program Revision Form (Complete one for each program/concentration revision)
Program Learning Outcomes – Complete included PLO form or provide separate form (Separate form must include all the elements of the included template)
Course Sequence Form- Complete included CSF or provide separate form (Separate form must include all the elements of the included template).
Substantive Change Form Only completed if curriculum action substantively changes what Palm Beach State College offers as per SACS Rules
Program Sheet-Complete to indicate narrative for program in catalog or on the Area of Study Page
Cluster/Business Partnership Council Approval - Cluster approval must be included in the form of minutes or an email vote. A cluster vote must be include a quorum of members voting (50% plus 1.) Business Partnership Council approval is supplemental.)

*** In addition to this packet, course addition, reactivation, revision, or deletion packets must be submitted for every course that has curriculum action occurring to its Course Dictionary record.**

Example:

Mostly existing courses at Plam Beach State-no course curriculum action needed.	**Youth Worker Credit Certificate (Must be approved by Workforce Education prior to offering at Palm Beach State)** HUS1001 Introduction to Human Services 3 credits HUS1200 Principles in Group Dynamics 3 credits HUSXXXX Principles in Youth Development 3 credits HUSXXXX Principles & Best Practices in Afterschool Programming 3 credits EDF1030 Behavior Management in the Classroom 3 credits DEP2004 Human Growth and Development 3 credits PSY2012 General Psychology 3 credits SYG2010 American Social Problems 3 credits HUS1850 Fieldwork in Human Services 3 credits HUS1850L Fieldwork in Human Services I Internship 3 credits **OTAL Required College Credit Certificate 30 credits**	New course offerings at Palm Beach State-will need CAF packet

Palm Beach State College Curriculum Action Process

Curriculum Action Form – New at State-Program/Concentration Addition (One curriculum action per form)

For assistance with this process, please contact Kathy Gamble at (561) 868-3893 or gamblek@palmbeachstate.edu

What is the effective date for this curriculum action? (Month, Year)(Academic Term) (example: August 2005, 2006-1)	**August 2015**
*For inclusion in the College catalog and the next year's fall schedule submit by last CC Agenda in **January***	**Form Submission Date** *1/5/2015*

Section A - Initial Curriculum Information

Who is the contact person for this curriculum action?	**Last Name**	**Andric**	**First Name**	**Oleg**	**Contact's phone x25414**

Cluster/PSAV Discipline Name:	**Natural Sciences/Physics**	

Which program action is being submitted? ☒ Create a new program ☐ Create a new program concentration ☐ Revise an existing program or program concentration

Title of Program:	Engineering Technology	**Award Type:** ☐ BAS ☐ BS ☒ AS ☐ ATD ☐ ATC ☐ PSAV ☐ CCC
Title of Program Concentration *(If applicable):*	Advanced Technology; Electronics; Alternative Energy Systems	

Curriculum Rationale/Needs Assessment

Explain why this program should be offered and how you assessed the need for the program. Be specific. Provide documentation such as research statistics, the need to meet SUS articulation requirements, etc.

There is a huge unmet need for engineering technologists in the County. This new field of training has been requested and supported by most of the companies in Electrical Power Technology program BPC. The degree has been approved by the appropriate College's bodies. The first three proposed tracks (options) would cover the three main tracks identified by these companies: Alternative Energy Systems, Electronics, and Advanced Technology.

Specify the budgetary impact of this program/Concentration on Palm Beach State College. *Budget impact is a critical issue for the administration to consider when making decisions on new programs. Please estimate as best you can if this new course will have a significant economic impact on the college.*

Will the new program/Concentration require…	Amount		Amount
New full-time faculty ☐ Yes ☐ No	$	Additional support staff ☐ Yes ☒ No	$
Renovation/remodel of classroom ☐ Yes ☒ No	$	Equipment needs (computers, labs) ☒ Yes ☐ No	$44,000
New LLRC resources (books, etc) ☒ Yes ☐ No	$2,900	SLC resources (tutors, software) ☐ Yes ☒ No	$
Media resources (videos, multimedia) ☐ Yes ☒ No	$	Other special needs ☐ Yes ☒ No	$
Accreditation fees ☐ Yes ☒ No	$	**TOTAL COST**	$46,900

Program/Program Concentration ADDITION Information

How many ☒ college credits or ☐ clock hours are included in this program?	60	

In what program discipline at the FLDOE will this new program reside? Engineering & Technology Education, Engineering Technology (8607000) *You can find this information at http://www.fldoe.org/workforce/dwdframe/*

Limited Access ☐ Yes ☒ No *(If yes, please contact Palm Beach State College Registrar at mailto:Muellere@palmbeachstate.edu for Limited Access Program Development Steps) Existing LA programs at (http://www.palmbeachstate.edu/admissions/limited-access-programs.aspx)*

Controlled Access (program entrance requirements and enrollment managed by department) ☐ Yes ☒ No

Please include the Program Course List in this order:

- *Credit Programs (BAS/BS, AS, CCC, ATD, ATC)-General Education Requirements (if they apply), Required Courses, and Electives for the new program/program concentration.*
- *PSAV programs -Occupational Completion Points (OCP) Groups.*

Credit Program Title:Engineering Technology	*PSAV Program Title:*
General Education Requirements-	**OCP Title-**
18 credit hours: for ALL tracks: SPC 1017 Fundamentals of Speech Communication MAC 1105 College Algebra ENC 1101 College Composition 1 PSY2012 General Psychology Humanities Area II PHY1001 Applied Physics	Courses
Required Courses-	**OCP Title-**

17 credit hours: For ALL tracks:

ETM 1010C Mechanical Measurements & Instruments (2 credit hours)

ETI 1701 Environmental Health & Safety

ETI 2110 Introduction to Quality Assurance

ETI 1830 Materials and Processes 1

ETD 2320C Introduction to AutoCAD

EET 1084C Electrical Circuits and Electronics (replaced with EET 2325C Electronic Communication Systems for Electronics track)

Advanced Technology track: addition 21 credit hours of core courses:

EET 2325C Electronic Communication Systems

ETD 2364C SolidWorks Fundamentals

ETI 2851C Applied Mechanics

ETS 1240 Fiber Optic Technologies

ETS 2520C Instrumentation Fundamentals

ETI 2121C Non-Destructive and Destructive Testing

ETI 2460C Composites Fundamentals

Electronics track: additional 18 credit hours of core courses:

EET 1015C DC Circuit Analysis

EET 1025C AC Circuit Analysis

EET 1215C Introduction to Electronics

CET 2123C Microprocessors 1

CET 2123C Microprocessors 2

EET 1141C Analog Devices

Alternative Energy Systems track: additional 18 credit hours of core courses:

ETP 1400C Distributed Electric Power Generation and Storage

ETP 1402 Introduction to Solar Energy

ETP 1511C Introduction to Biofuels

ETP 1530C Introduction to Wind Energy

ETP 1540 Introduction to Hydro Power

ETP 1550C Alternative Fuels and Electric Vehicle Technologies

Courses
New Course Offerings at PBSC – CAF packets attached

Elective Courses-	OCP Title-
Advanced Technology track: 4 credit hours of electives **Electronics track: 7 credit hours of electives** **Alternative Energy Systems track: 7 credit hours of electives** **Advanced Technology OR Electronics track electives:** EET 2724C Schematic Capture and Modeling EET 1610C Through-Hole and Surface-Mount Soldering EET 2620C Advanced Surface-Mount Soldering Technology EET 1142C Analog Circuits EET 2609C Electronic Fabrication and Fiber Optics **Alternative Energy Systems track electives:** ETP 2410C Photovoltaic Technology ETS 1810C Energy Efficient Buildings ETP 1510C Biofuels and Biomass **ALL tracks electives:** EET 2325C Electronic Communication Systems (not an elective for Electronics track) EET 2609C Electronic Fabrication and Fiber Optics EET 1611 Standard Testing and Certification EGS2122 Geometric Dimensioning and Tolerancing ETI 1411 Manufacturing Process ETI 1622 Concepts of Lean Manufacturing and Six Sigma ETD 2340C AutoCAD 2 ETD 2355C AutoCAD 3D Modeling ETD 1931 Special Topics in Engineering Technology ETD 2941 Engineering Technology Internship	Courses
	OCP Title-
	Courses

Program Code	Engineering Technology	**Total Program Credits**	60	

Total General Education Courses Credits	18	**Total Required Course Credits**	Advanced Technology track: 38; Electronics track 35; Alternative Energy Systems track 35	**Total Elective Credits**	Advanced Technology track: 4; Electronics track 7; Alternative Energy Systems track 7

Program Learning Outcomes- *Please fill in attached form.*

Comments: Please enter any information that would clarify the curriculum action you are requesting.

Attach minutes of your ☒ Cluster (required) and ☒ Partnership Council (optional) reflecting recommendations of this action.

Date of Cluster Minutes	**1/5/2015**	**Date of Business Partnership Council Minutes**	4/10/2014

Academic Services Use ONLY (For AS degrees)

Program Code		**Total Program Credits**			
Total General Education Courses Credits		**Total Required Course Credits**		**Total Elective Credits**	

Gen Ed-Humanities/Fine Arts	Gen Ed-Social/Behavioral Science	Gen Ed-Mathematics/Science

This action will be included on the next available Curriculum Committee meeting agenda ***http://wwwpalmbeachstate.edu/x6738.xml*** ***for approval.*** *All these forms are located at http://www.palmbeachstate.edu/x6741.xml*

The VPAA approves ALL curriculum action recommendations of the Curriculum Committee. NEW Programs and significant program revisions must be approved by the Palm Beach State Board of Trustees.

*CWE and Avocational courses are processed on a Course Dictionary Request Form
http://www.palmbeachstate.edu/documents/Academic_Services/CWE_Form.doc

Form revised February 2010 KG

Program Learning Outcomes

Complete this form if this program actions requires new or revised learning outcomes.

☐ **No Change**

Program/Cluster Leader: Physics Cluster
Program Area: Engineering Technology
Program Code(s):

Go to Program Learning Outcomes to find current program PLOs

Program Learning Outcome #1:
Demonstrate an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities.

This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☒	Communications	☐	Humanities	☒	Mathematics	☒	Natural Science	☐	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☒	Critical Thinking	☐	Ethics	☒	Global Awareness	☒	Information Literacy	☐	None

Program Learning Outcome #2:
Demonstrate an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.

This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☒	Communications	☐	Humanities	☒	Mathematics	☒	Natural Science	☐	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☒	Critical Thinking	☒	Ethics	☒	Global Awareness	☒	Information Literacy	☐	None

Program Learning Outcome #3:
Demonstrate an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☒	Communications	☒	Humanities	☒	Mathematics	☒	Natural Science	☒	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☒	Critical Thinking	☒	Ethics	☒	Global Awareness	☒	Information Literacy	☐	None

Program Learning Outcome #4:

Demonstrate an ability to apply ethical standards in professional decision-making.

This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☒	Communications	☒	Humanities	☒	Mathematics	☒	Natural Science	☒	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☒	Critical Thinking	☒	Ethics	☒	Global Awareness	☐	Information Literacy	☐	None

Program Learning Outcome #5:

Demonstrate an ability to apply written, oral, and graphical communication in both technical and nontechnical environments; and an ability to identify and use appropriate technical literature.

This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☒	Communications	☒	Humanities	☒	Mathematics	☐	Natural Science	☒	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☒	Critical Thinking	☒	Ethics	☒	Global Awareness	☒	Information Literacy	☐	None

Program Learning Outcome #6:

Demonstrate an ability to function effectively as a member of a technical team.

This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☒	Communications	☒	Humanities	☐	Mathematics	☐	Natural Science	☒	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☒	Critical Thinking	☒	Ethics	☒	Global Awareness	☐	Information Literacy	☐	None

Program Learning Outcome #7:

Demonstrate an ability to engage in independent learning and recognize the need for continual professional development.

This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☒	Communications	☒	Humanities	☒	Mathematics	☒	Natural Science	☒	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☒	Critical Thinking	☒	Ethics	☒	Global Awareness	☒	Information Literacy	☐	None

Program Learning Outcome #8:
This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☐	Communications	☐	Humanities	☐	Mathematics	☐	Natural Science	☐	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☐	Critical Thinking	☐	Ethics	☐	Global Awareness	☐	Information Literacy	☐	None

Program Learning Outcome #9:
This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☐	Communications	☐	Humanities	☐	Mathematics	☐	Natural Science	☐	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☐	Critical Thinking	☐	Ethics	☐	Global Awareness	☐	Information Literacy	☐	None

Program Learning Outcome #10:
This PLO addresses the following General Education/Institutional Learning Outcome (Check all that apply or "None")

☐	Communications	☐	Humanities	☐	Mathematics	☐	Natural Science	☐	Social Sciences	☐	None

This PLO addresses the following Institutional Learning Outcome (Check all that apply or "None")

☐	Critical Thinking	☐	Ethics	☐	Global Awareness	☐	Information Literacy	☐	None

Program Course Sequence

Complete this form if this program actions requires new or revised program sequence.

☐ **No Change**

Program Title: Engineering Technology

Program Objective Code:

Level: ☐ BAS/BS ☒ AS ☐ CCC ☐ ATD ☐ ATC ☐ PSAV

Prepared by: Oleg Andric Date: 1/5/2015

Term 1

☐ Fall	☐ Spring	☒ Summer
Course ID	Title	
MAC 1105	College Algebra	
ENC 1101	College Composition 1	
SPC 1017	Fundamentals of Speech Communication	

Term 2

☒ Fall	☐ Spring	☐ Summer
Course ID	Title	
PHY1001	Applied Physics	
ETI 1701	Environmental Health & Safety	
ETI 1830	Materials and Processes 1	
ETD 2320C	Introduction to AutoCAD	
EET 1084C	Electrical Circuits and Electronics (non Electronics track)	
EET 1015C	DC Circuits (Electronics track)	

Term 3

☐ Fall	☒ Spring	☐ Summer
Course ID	Title	
ETM 1010C	Mechanical Measurements & Instruments	
ETI 2110	Introduction to Quality Assurance	
ETI 2851C	Applied Mechanics (Advanced Technology track)	
EET 1025C	AC Circuits (Electronics track)	
ETS 2520C	Instrumentation Fundamentals (Advanced Technology track)	
ETD 2364C	SolidWorks Fundamentals (Advanced Technology track)	
ETP 1530C	Introduction to Wind Energy (Alternative Energy Systems track)	
ETP 1540C	Introduction to Hydro Power (Alternative Energy Systems track)	

Term 4

☐ Fall	☐ Spring	☒ Summer
Course ID	Title	
EET 1215C	Introduction to Electronics (Electronics track)	
EET 1141C	Analog Devices (Electronics track)	
ETS 1240	Fiber Optic Technologies (Advanced Technology track)	
PSY 2012	General Psychology	
	Humanities Area II	
	Alternative Energy Systems track elective	

Term 5

☒ Fall	☐ Spring	☐ Summer
Course ID	Title	
CET 2123C	Microprocessors 1 (Electronics track)	
ETP 1400C	Distributed Electric Power Generation and Storage (Alternative Energy Systems track)	
ETP 1511C	Introduction to Biofuels (Alternative Energy Systems track)	
EET 2325C	Electronic Communication Systems (Electronics track or Advanced Technology track or Alternative Energy Systems elective)	
ETI 2121C	Non-Destructive and Destructive Testing (Advanced Technology track)	
	Alternative Energy Systems track elective	
	Electronics track elective	
	Advanced Technology track elective	

Term 6

☐ Fall	☐ Spring	☐ Summer
Course ID	Title	
CET 2127C	Microprocessors 2 (Electronics track)	
ETP 1550C	Alternative Fuels and Electric Vehicle Technologies (Alternative Energy Systems track)	
ETP 1402	Introduction to Solar Energy (Alternative Energy Systems track)	
ETI 2460C	Composites Fundamentals (Advanced Technology track)	
	Alternative Energy Systems track elective	
	Electronics track elective	
	Electronics track elective	
	Advanced Technology track elective	

Term 7

☐ Fall	☐ Spring	☐ Summer
Course ID	Title	

Term 8

☐ Fall	☐ Spring	☐ Summer
Course ID	Title	

Term 9

☐ Fall	☐ Spring	☐ Summer
Course ID	Title	

Substantive Change Form

Complete this form if this program action reflects a substantive change in Palm Beach State offerings as outlined by SACS guidelines.

☒**No Change**

Introduction

To be in compliance with SACS guidelines and Federal Law, Palm Beach State College must assess whether a proposed change in programs, facilities, centers or program delivery is a "substantive" change. Substantive change is a Federal term relating to any "significant modification of the nature and scope of an accredited institution." Palm Beach State must notify SACS of a potential or actual substantive change in a timely fashion, and in many cases must receive approval for such a change from SACS before the initiative is implemented. The College has developed this form to assess the scope of the proposed change. The SACS website provides more detailed information on substantive change at http://www.sacscoc.org/SubstantiveChange.asp.

Initiator's Name: _____ Date: _____

Program Name: _____

Program Type: ☐BAS/BS ☐AS ☐CCC ☐ATD ☐ATC ☐PSAV

Brief Description of the Proposed Change (paragraph or less):

Substantive Change Assessment

This initiative . . .

Type of Substantive Change	**Yes**	**No**
Initiates coursework or programs at a more advanced level than currently approved.	☐	☐
Expands at current degree level (significant departure from current programs)	☐	☐
Initiates a branch campus.	☐	☐
Initiates off-campus sites where: Student can obtain 50% or more credits toward a program.	☐	☐
Initiates off-campus sites where: Student can obtain 25-49% of credit toward a program.	☐	☐
Adds significantly different program at an approved site.	☐	☐
Initiates distance learning: Offering 50% or more of program.	☐	☐
Initiates distance learning: Offering 25-49% of program.	☐	☐
Initiates programs/courses offered through contractual agreement or consortium.	☐	☐
Changes the number of credit hours awarded for successful completion of a program.	☐	☐
Initiates a merger/consolidation.	☐	☐
Changes governance, ownership, control or legal status.	☐	☐
Alters significantly the length of a program.	☐	☐
Closes an institution/program; initiates teach-out agreements.	☐	☐

If you checked "No" on each item, justification of why this is not a substantive change: _____

Reviewed and approved: _____
VPAA

Copies: Curriculum File, Originator, SACS

Program Sheet (for Palm Beach State Catalog and Area of Study Web Page)

Complete this form if this program action reflects a change to the catalog or Area of Study narrative.

☐ **No Change**

Program Sheet: Engineering Technology

Type of Program AS

Program Website

Program Description

The Engineering Technology program is designed for the student who is seeking an A.S. degree and preparing for a career in the engineering technology field or general electrocnics or alternative energuies fields. It is also designed for employees in these fields who seek further education and career advancements. The skillset and knowledge acquired in the program applies to a vaariety of industries: manufacturing, engineering, aerospace, power, transportation, and others.

Course content includes core courses in both electrical and mechanical engineering with special programs in advanced technology, alternative energy systems, and electronics.

Employment Opportunities

Upon completion of this program, you may seek employment in an entry-level position with a broad base of skills in engineering technology. There will be expanded employment opportunities due to Florida's projected additional engineering technologists needs. Job titles include technician in engineering technology, electronics, engineering, research and development, testing, drafting, alternative energies, or as engineering assistants, technologist.

Career Path Notes

Courses from this program may transfer to other colleges and universities which allow students to transfer into a four-year program. For more information, contact the college or university to which you wish to transfer.

Admission

Have a standard high school diploma or GED;

Complete an Application for Admission, located at

www.palmbeachstate.edu/admissions/admissions-applications.aspx.

http://www.palmbeachstate.edu/admissions.xml

Completion Requirements

Students must successfully complete all courses listed in the catalog for this program.

Program Length

60 credit hours. The program can be finished in two years if students attend full time or three years if they attend part time.

Location

The program is offered at the Palm Beach Gardens campus.

Financial Aid http://www.palmbeachstate.edu/financialaid.xml

Application http://www.palmbeachstate.edu/admissions.xml

Advising http://www.palmbeachstate.edu/advising.xml

Career Center http://www.palmbeachstate.edu/career

For more information about employment opportunities including job outlook and salary information visit:

Occupational Outlook Handbook: http://www.bls.gov/oco/

O-Net Online: http://online.onetcenter.org/

For More Information

Robert Van Der Velde, Associate Dean, vanderr@palmbeachstate.edu, (561) 207-5416

Oleg Andric, Associate Professor, andrico@palmbeachstate.edu, (561) 207-5414

Brenda Lesser, Administrative Assistant, (561) 207-5055

New Program Information for Eligibility

Determination for Federal *and* State Financial Aid

Please complete this information for each Certificate or A.S. Degree Program you are requesting to be eligible for Federal or State Student Financial Aid Programs.

Section I-Basic Program Requirements for Federal Aid

- *leads to an A.S. degree, a certificate, or other recognized educational credential*
- *prepares students for gainful employment in a recognized occupation*
- *is at least 15 weeks, and*
- *provides at least 16 semester credit hours, or 600 clock hours of instruction*

Name of program:	Engineering Technology
Number of weeks:	104
Clock hours (number of hours) of instruction:	
Number of credit hours (semester credit hours):	60
Date first offered at Palm Beach State (month/day/year):	August 21, 2015

Section II-Federal Aid Programs--Alternative Compliance for Shorter Programs

- *admits <u>only</u> students with an Associate's Degree*
- *is at least 10 weeks; provides a minimum of 8 semester hours of instruction/credits*
- *is at least 10 weeks; provide at least 300 but not more than 599 clock hours of instruction*

Name of program:	
Number of weeks:	
Clock hours	
or	
Credit Hours	

Section III—for NEW <u>STATE</u> Aid Program ONLY; beginning Fall 2007

. *Minimum of 15 semester hours, or 450 clock hours*

Name of Program:	

Cluster/Business Partnership Council Minutes

All curriculum actions required the approval of the discipline cluster. Business partnership council approval can be included as well. This can be provided in the form of written minutes electronically submitted to Academic Services or an email vote results sent on to Academic Services by the curriculum action preparer. Cluster approval must include a quorum of members voting on the action (50% plus 1) with a majority of those members approving the action. Go to http://www.palmbeachstate.edu/academicservices/faculty-information/cluster-info-forms/default.aspx for the minutes template and email vote instructions.