

SPC St. Petersburg College

Syllabus Addendum: www.spcollege.edu/addendum

Instructor Information

Carlos Villafane

Email: Villafane.Carlos@hotmail.com

Academic Department

Dean: John Chapin, Ph.D.

Office Location: Seminole Campus

Phone: 727-394-6995

Email: chapin.john@spcollege.edu

Program Director: Giovanna Taylor

Office Location: Clearwater Campus, AD 140

Phone: 727-791-2402

Email: Taylor.Giovanna@spcollege.edu

Course Description:

This course introduces the student to the basic lab instruments for testing and troubleshooting electrical components. The topics covered will include the principle of operation and usage of digital multi-meters, portable oscilloscopes, simulators and other testing equipment needed to perform testing and calibration of medical devices.

Important Dates and Times

Course Dates: January 18- March 14

Class Meeting Day: Monday

Course Hours: 6-8:40PM

Class Location: CR 182

Suggested Textbook:

There is no required book at this time

Learning Outcomes and Objectives:

Upon completing Instrumentation and control systems, the student will be able to:

1. **Demonstrate proficiency in troubleshooting basic electrical systems, use of test equipment, processes and electrical safety**
2. **Demonstrate proficiency in operating test equipment, repairing basic electrical systems and resolving patient safety issues**

3. Demonstrate proficiency in electrical measurement, test equipment use, device troubleshooting and operation of patient simulation devices

Evaluation

This is a hands on skills lab based course. All students will need to actively participate in the course and successfully complete (minimum of 70%) the end of course skills lab in order to receive credit for the course.

STUDENT'S EXPECTATIONS AND INSTRUCTOR'S EXPECTATIONS

College-wide student expectations are located in the Syllabus Addendum:
<http://www.spcollege.edu/webcentral/policies.htm>.

Student Survey of Instruction (SSI)

The student survey of instruction is administered I courses each semester. It is designed to improve the quality of instruction at St. Petersburg College. All students responses are confidential and anonymous and will be used solely for the purpose of performance improvement. The survey will be available online, and will be active towards the end of the semester.

Hurricane Emergency Preparedness

In the event that a hurricane or other natural disaster causes significant damage to St. Petersburg College facilities, you may be provided the opportunity to complete you course work online. Following the event, please visit the college web site for an announcement of the College's plan to resume operations.

Grading Policy

All assigned coursework is graded on a Pass/Fail basis. Students not achieving a Pass on 70% of the assignments will not be able to apply for credit through the Experiential Learning Program or articulation towards the proposed A.S. Degree in Biomedical Technology or Engineering Technology at St. Petersburg College.

Syllabus Changes

The professor has the right to change or modify the syllabus as he/she sees fit. Notifications of changes will be made to the students. However, once the notifications have been made, it is the responsibility of the student to adhere to the changes

**BMD 0214- Instrumentation and Control Systems
Class Schedule (Tentative) – Spring 2016**

Lesson	Topics & Assignments	Class Activity	Assignments & Due dates
<p>Lesson 1 January 18 2016</p>	<p>Course Syllabus & Overview Safety Concerns General Lab Operations Introduction to Basic</p> <p>Measurement Techniques Terminology and</p> <p>Application Accuracy and Error Measurement</p>	<p>PowerPoint/Lecture</p>	
<p>Lesson 2 January 25, 2016</p>	<p>Basic Meter Usage and D.C. Power Supplies Digital Multimeter</p> <p>(DMM) – Usage and Application Accuracy, Precision, and Resolution Resistance and Voltage</p> <p>Measurements D.C. Power Supply Operation</p>	<p>PowerPoint/Lecture</p>	
<p>Lesson 3 February 1 2016</p>	<p>Overview of Safety Analyzer Overview of Safety Analyzer Test Process and Techniques</p> <p>Biomedical Electronic Measurement Instruments</p>	<p>PowerPoint/Lecture</p>	

	Oscilloscopes Signal Generators		
Lesson 4 February 8, 2016	Biomedical Test Equipment Non-Invasive Blood Pressure SpO2 Tester	PowerPoint/Lecture	
Lesson 5 February 15 2016	Life Safety Test Equipment/Patient Simulators Calibration Equipment	PowerPoint/Lecture	
Lesson 6 February - 22, 2016	Imaging Equipment Testers Basic Digital Circuit Fundamentals	PowerPoint/Lecture	
Lesson 7 February 29, 2016	Logic Analyzers and Timing Fundamentals	PowerPoint/Lecture	
Lesson 8 March 14, 2016	Wrap up and Exam		

“This product was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The U.S. Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.”