**Course Title:** INT 102 Introduction to PLC

**Course Instructor(s):** Anthony Valente

**Programs:** Industrial Technology

**Expected Learning Outcomes**

- Students will be able to explain the basic concepts and components of a Programmable Logic Controller.
- Students will understand basic PLC terminology and their meanings.
- Students will learn the concepts of electrical ladder logic and its relationship to programmed PLC instruction.
- Students will understand timers, counter, and other intermediate programming concepts and functions.
- Students will demonstrate a basic programming knowledge for entry-level PLC applications.
- Students will be able to explain the basic concepts of Industrial Automation.

**Assessment**

Assessments will include:
2 written test and a final exam.
Classroom lab exercises and assignments.
A final assignment in circuit design.

**Validation**

1. Comparison of final exam results with national average skills in the electrical field of work.

2. The evaluation of student performance and ability to transfer knowledge to next level of class in the program.

3. Consult Advisory Committee participants as to performance of interns and hired students based on ability and knowledge gained.

**Results**

The results of the testing and final examination will show the level of retention of the classroom materials.

The results of the lab exercises and assignments will show the ability of the student to transfer textbook information to hands-on applications.

The results of the Advisory Committee input will allow us to place a rate of success in our database for ongoing improvement to the course and advise us of changes in technology and industry standards.

***During the Spring semester of 2016 it was noted that the students average grade was 85%. The Allen Bradley section of the course using the simulation software that students can take home was reduced a little more this semester and focused strictly on understanding available instructions that are universal to most PLC brands. Therefore the Siemens PLC section was increased to allow more time to understand hardwiring, and to spend more time understanding the HMI graphics library and linking of addresses from the PLC to the HMI.***

**Follow-up**

The data will be evaluated to improve teaching techniques
The data will be evaluated to help us remain up to date with technology changes.

**Budget Justification**

Update textbook to include changes in technology
Update lab equipment to keep pace with changes in technology

***We continue to evaluate the feasibility of purchasing additional input and output devices to be connected to the Siemens PLCs.***