PROGRAM ASSESSMENT PLANNING FORM

Program to be assessed:

Title: Industrial Electronics Technology II
Division: ATP   Department: Industrial Technology   Program Code: CVIET2

Type of Award: ☐ A.A.   ☐ A.S   ☐ A.A.S.
                 ☐ Cert.   ☒ Adv. Cert. ☐ Post-Assoc. Cert.   ☐ Cert. of Completion

Assessment plan:

Learning outcomes to be assessed	Assessment tool	When assessment will take place	Describe population to be assessed	Number of students to be assessed
Recognize the principles of operation of electrical machines.	Relevant questions from ELE 134 final exam.	Every three years, starting Winter 2022.	All students who take the final exam.	All students who take the final exam.
Troubleshoot motor control circuits utilizing electrical diagrams.	Relevant questions from ELE 134 final exam.	Every three years, starting Winter 2022.	All students who take the final exam.	All students who take the final exam.
Demonstrate proficiency in interpreting the National Electric Code (NEC) rules and in performing electrical calculations using the tables in the NEC.	Relevant questions from ELE 204 final exam.	Every three years, starting Winter 2022.	All students who take the final exam.	All students who take the final exam.

Scoring and analysis of assessment:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric/scoring guide.

   Departmentally developed answer key.

2. Indicate the standard of success to be used for this assessment.

   70% of students will score 70% or better on the questions relevant to each outcome.

3. Indicate who will score and analyze the data (data must be blind-scored).

   Faculty who teach ELE courses.

Submitted by:

Name:_____Dale Petty   _____   Date:___6/13/19_____
    Print/Signature

PROGRAM ASSESSMENT PLANNING FORM

Dept. Chair:_____   Date:_____
　　　　　　　Print/Signature

Dean:_____   Date:___7/23/19___
　　　　Print/Signature

Reviewed by C&A Committee
8/22/19

Please return completed form to the Office of Curriculum & Assessment, SC 257.

PROGRAM PROPOSAL FORM

☐ **Preliminary Approval** – Check here when using this form for preliminary approval of a program proposal, and respond to the items in general terms.

☒ **Final Approval** – Check here when completing this form after the Vice President for Instruction has given preliminary approval to a program proposal. For final approval, complete information must be provided for each item.

Program Name:	Industrial Electronics Technology II	**Program Code:**
Division and Department:	BCT/ELED	CVIET2
Type of Award:	☐ AA ☐ AS ☐ AAS ☐ Cert. ☒ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Comp.	**CIP Code:**
Effective Term/Year: **Initiator:**	Fall 2007 Gary Downen	47.0105

Program Features Program's purpose and its goals. Criteria for entry into the program, along with projected enrollment figures. Connection to other WCC programs, as well as accrediting agencies or professional organizations. Special features of the program.	This advanced certificate, when combined with the CFIET (Industrial Electronics Technology) certificate, provides the technical training required for a student to enter the field of industrial electrician. The courses in this certificate all require prerequisites covered in the CFIET certificate or equivalent job experience. ELE 134 (Motors and Controls) and ELE 204 (National Electrical Code) are standard courses included in the apprenticeship programs offered by the department.
Need Need for the program with evidence to support the stated need.	ELE 134 (Motors and Controls) and ELE 204 (National Electrical Code) have been offered as part of the department's core requirements from the very beginning of the department. They were removed from the CFIET Certificate in 2004 to allow the certificate to fit the needs of the new Automation Technology Associate in Applied Science Degree. They have not, however, lost their importance as core courses for those students seeking training as industrial electricians. These two courses along with ELE 284 (Control Logic Programming), an updated version of ELE 137 (another course that dates back to the beginning of the department), are being repackage as an advanced certificate to recognize their importance in the curriculum of students seeking training as industrial electricians.

Program Outcomes/Assessment State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program.	Outcomes 1. Recognize the principles of operation of electrical machines.	Assessment method Blind scored, departmental test questions administered in all sections of ELE 134 during the semester of assessment. (See attachment 1.)
Include assessment methods that will be used to determine the effectiveness of the program.	2. Troubleshoot motor control circuits utilizing electrical diagrams.	Blind scored, departmental test questions administered in all sections of ELE 134 during the semester of assessment. (See attachment 1.)
	3. Demonstrate proficiency in interpreting the NEC rules and in performing electrical calculations using the tables in the NEC.	Blind scored, departmental test questions administered in all sections of ELE 204 during the semester of assessment. (See attachment 1.)
	4. Identify structured techniques used to program PLCs.	Blind scored, departmental test questions administered in all sections of ELE 284 during the semester of assessment. (See attachment 1.)

Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

| Curriculum

List the courses in the program as they should appear in the catalog. List minimum credits required. Include any notes that should appear below the course list.	Major/Area Requirements	(12 Credits)
	ELE 134 Motors and Controls	4
	ELE 204 National Electrical Code	4
	ELE 284 Control Logic Programming	4
	Minimum Credits Required for the Program: 12 Credits	

| Budget

Specify program costs in the following areas, per academic year:

Because the program courses are already in place, there are no new costs, neither start-up or ongoing.		START-UP COSTS	ONGOING COSTS
	Faculty	$ 0.00	$.
	Training/Travel	0.00	.
	Materials/Resources	0.00	Included in
	Facilities/Equipment	0.00	current budget
	Other	0.00	.
	TOTALS:	$ 0.00	$ 0 .00

Program Description for Catalog and Web site	This program provides advanced instruction for students who wish to enhance their skills in the area of industrial electronic control. The courses in this certificate build on the foundation of electricity and electronic control introduced in the CFIET certificate. Students will learn to apply and control electric motors, use structured techniques to program PLCs, and relate their understanding of electricity and controls to the requirements of the National Electrical Code.
Program Information	**Accreditation/Licensure** – Prepares Students to take the State of Michigan Journeyman Electrician Licensing Examination

Advisors – (See below)
Advisory Committee - William Sumpter, Inergy Automotive Systems; Larry Bonds, Bonds Electric Inc.
Admission requirements – Completion of CFIET certificate or equivalent
Articulation agreements - None
Continuing eligibility requirements - None |

Assessment plan:

Program outcomes to be assessed	Assessment tool	When assessment will take place	Describe population to be assessed	Number students to be assessed
1. Recognize the principles of operation of electrical machines.	Blind scored, departmental test questions administered in all sections of ELE 134 during the semester of assessment. (See attach. 1.)	Every three years starting Winter 2009	All students enrolled in program courses during the semester of assessment	Approx. 15 – 24
2. Troubleshoot motor control circuits utilizing electrical diagrams.	Blind scored, departmental test questions administered in all sections of ELE 134 during the semester of assessment. (See attach. 1.)	Every three years starting Winter 2009	All students enrolled in program courses during the semester of assessment	Approx. 15 – 24
3. Demonstrate proficiency in interpreting the NEC rules and in performing electrical calculations using the tables in the NEC.	Blind scored, departmental test questions administered in all sections of ELE 204 during the semester of assessment. (See attach. 1.)	Every three years starting Winter 2009	All students enrolled in program courses during the semester of assessment	Approx. 15 – 24
4. Identify structured techniques used to program PLCs.	Blind scored, departmental test questions administered in all sections of ELE 284 during the semester of assessment. (See attach. 1.)	Every three years starting Winter 2009	All students enrolled in program courses during the semester of assessment	Approx. 15 – 24

Scoring and analysis plan:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric.

   Blind scored, departmental test questions administered in all sections being assessed included as part of instructor developed final exams. (See attachment 1.) The assessment results will be evaluated by the program faculty.

2. Indicate the standard of success to be used for this assessment.

   Each of the program outcomes will be evaluated seperately with an expectation that 90% of the program students will have successfully achived the given outcome with a score of 75% or better.

3. Indicate who will score and analyze the data.

   The assessment results will be evaluated by the ELE faculty.

4. Explain how and when the assessment results will be used for program improvement.

   The ELE faculty will analyze the results of the assessment data for areas of strengths and weaknesses. Ideas will be generated to addresses the areas of weaknesses.

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Gary Downen	*Gary Downen*	12/18/06
Dean	Rosemary Wilson	*Rosemary Wilson*	1/4/07
Vice President for Instruction ☑ Approved for Development ☐ Final Approval		*Roger M. Palay*	4/10/07
President		*Gary Whitworth*	5/14/07
Board Approval			

logged 1/16/07

Industrial, Manufacturing, & Automation Technology

Industrial Electronics Technology II (CVIET2)
Advanced Certificate
Program Effective Term: **Fall 2007**

This program provides advanced instruction for students who wish to enhance their skills in the area of industrial electronic control. The courses in this certificate build on the foundation of electricity and electronic control introduced in the Industrial Electronics Technology I certificate. Students will learn to apply and control electric motors, use structured techniques to program PLCs, and relate their understanding of electricity and controls to the requirements of the National Electrical Code. This program prepares students to take the State of Michigan Journeyman Electrician Licensing Exam.

Program Admission Requirements:
Completion of the Industrial Electronics Technology I certificate or equivalent.

Major/Area Requirements

Course	Title	Credits
ELE 134	Motors and Controls	(12 credits)
ELE 204	National Electrical Code	4
ELE 284	Control Logic Programming	4
		4

Minimum Credits Required for the Program:

12