Wharton County Junior College

SCANS Matrix

Program: Electronics Engineering Technology: AAS **Program: Electronics Engineering Technology**
CIP: 15.0303

LIST ALL COURSES REQUIRED AND IDENTIFIED COMPETENCIES

Competencies								Course Number	Course Title
1	2	3	4	5	6	7	8		
X				X	X	X		CETT 1321	Electronic Fabrication
X	X	X	X	X		X		CETT 1403	D.C. Circuits
X	X	X	X	X		X		CETT 1425	Digital Fundamentals
X	X	X	X	X		X		CETT 1405	A.C. Circuits
X	X			X	X	X	X	CETT 1331	Programming for Discrete Electronic Devices
X	X	X	X	X	X	X		CETT 1341	Solid State Circuits
X		X		X		X		CETT 1429	Solid State Devices
X	X			X		X	X	CETT 1345	Microprocessors
X	X	X	X	X		X		CETT 1457	Linear Integrated Circuits
X	X	X	X	X	X	X		EECT 2339	Communication Circuits
X	X	X		X		X	X	ELMT 1301	Programmable Logic Controllers
X	X	X	X	X	X	X		CETT 2349	Research and Project Design
X	X	X					X	ELMT 2433	Industrial Electronics
X	X							ENGL 1301	English
		X						MATH 1314	College Algebra
		X						Math 1316	Plane Trigonometry
								Elective	Social / Behavioral Science
								Elective	Humanities/Fine Arts

COMPETENCY REFERENCES

	8 **Basic use of computers**
	7 **Workplace Competencies**: resources; interpersonal skills; information; systems; and technology.
	6 **Personal Qualities**: A worker must display responsibility, self-esteem, sociability, self-management, integrity, and honesty.
	5 **Thinking Skills**: A worker must think creatively, make decisions, solve problems, visualize, know how to learn, and reason effectively.
	4 **Speaking and Listening**: Organize ideas and communicate orally; receive, attend to, interpret, and respond to verbal messages and other cues.
	3 **Arithmetic or Mathematics**: Perform basic computations and approach practical problems by choosing appropriately from a variety of mathematical techniques.
	2 **Writing**: Communicate thoughts, ideas, information, and messages in writing, and create documents such as letters, directions, manuals, reports, graphs, and flow charts.
1 **Reading**: Locate, understand, and interpret written information in prose and in documents such as manuals, graphs, and schedules.	

SCANS Competencies Checklist

Academic Year: 2022-2023

SCANS COMPETENCIES FOR PROGRAM: Electronics Engineering Technology: AAS

Competency	Course where Competency is Assessed	Method of Assessment	Improvements as a Result of Assessment Findings
1 READING: Locate, understand, and interpret written information in prose and in documents such as manuals, graphs, and schedules.	Technical courses throughout the program curriculum. Final assessment in CETT 2439 Capstone.	Departmental Exams, Laboratory Exercises	Reading skills are satisfactory. The department will continue to integrate reading comprehension assignments into the curriculum.
2 WRITING: Communicate thoughts, ideas, information, and messages in writing, and create documents such as letters, directions, manuals, reports, graphs, and flow charts.	Technical courses throughout the program curriculum. Final assessment in CETT 2439 Capstone.	Departmental Exams, Laboratory Exercises, Writing assignments	The department incorporates writing assignments-technical documentation, journal entries, and procedural documentation into the technical courses. All students participated in preparing and writing procedure and operations manuals
3 ARITHMETIC OR MATHEMATICS: Perform basic computations and approach practical problems by choosing appropriately from a variety of mathematical techniques.	Technical courses throughout the program curriculum. Final assessment in CETT 2439 Capstone.	Departmental Exams, Laboratory Exercises	Some students required more instructor intervention and help than others. 72% of the students completed the project with normal instructor feedback and assistance on their first attempt. The remainder needed additional time outside of class with instructor help to complete. This project is a very worthwhile learning process for all students regardless of the time taken to complete. All students completed written laboratory reports. Continue this lab with instructor support to students having difficulty.
4 SPEAKING AND LISTENING: Organize ideas and communicate orally; receive, attend to, interpret, and respond to verbal messages and other cues.	Technical courses throughout the program curriculum. Final assessment in CETT 2439 Capstone.	Departmental Exams, Laboratory Exercises	Both groups successfully completed an operations procedure with timelines, parts list, construction details, and operation instructions. Both groups verbally communicated with their peers

Competency	Course where Competency is Assessed	Method of Assessment	Improvements as a Result of Assessment Findings
5 THINKING SKILLS: A worker must think creatively, make decisions, solve problems, visualize, know how to learn, and reason effectively.	Technical courses throughout the program curriculum. Final assessment in CETT 2439 Capstone.	Departmental Exams, Laboratory Exercises	85% of students were able to correctly built and troubleshoot all types of rectifier circuits. Additional exercises in more complex (bridge) rectifier circuits were added as recommendation from past assessment. Students did well with additional exercises and we will continue the practice.
6 PERSONAL QUALITIES: A worker must display responsibility, self-esteem, sociability, self-management, integrity, and honesty.	Technical courses throughout the program curriculum. Final assessment in CETT 2439 Capstone.	Departmental Rubric based on students' performance in both the classroom and laboratory setting.	Students formed 2 groups and each group researched an built a project. 100% of students participated and worked collaboratively.
7 WORKPLACE COMPETENCIES: resources; interpersonal skills; information; systems; and technology	Technical courses throughout the program curriculum. Final assessment in CETT 2439 Capstone.	Departmental Rubric based on students' performance in both the classroom and laboratory setting.	Students performed above average as a group. Two separate groups completed individual projects. Both project leaders successfully coordinated their project. Both projects were challenging and 100% of students participated. The projects were successful and incorporated both hardware and software pieces.
8 BASIC USE OF COMPUTERS	CETT1331, CETT 1345	Software programming project	90% of students correctly constructed an algorithm using a high-level programming language. Students were introduced to additional more complex lessons using 8085 trainers requiring machine language skills. 85% of students successfully programed using machine code. A collaborative group assignment will be added.