Wharton County Junior College

Administrative Master Syllabus

Course Information

Course Title	Process Technology I-Equipment
Course Prefix, Num. and Title	PTCA 1410 Process Technology I-Equipment
Division	Vocational Science
Department	Process Technology
Course Type	WECM Course
Course Catalog Description	Introduction to the use of common processing equipment.
Pre-Requisites	PTAC 1302
Co-Requisites	

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	4:3:2
Equated Pay Hours	4
Lab/Other Hours Breakdown: Lab Hours	2
Lab/Other Hours Breakdown: Clinical Hours	Enter Clinical Hours Here.
Lab/Other Hours Breakdown: Practicum Hours	Enter Practicum Hours Here.
Other Hours Breakdown	List Total Lab/Other Hours Here.

Approval Signatures

Title	Signature	Date
Prepared by:	Willie Myles — Digitally signed by Willie Myles DN: cn=Willie Myles, o, ou, email=mylesw@wcjc.edu, c=US Date: 2020.09.03 13:06:41 -05'00'	9/3/2020
Department Head:	Willie Myles — Digitally signed by Willie Myles DN: cn=Willie Myles, o, ou, email=mylesw@wcjc.edu, c=US Date: 2020.09.03 13:06:54 -05'00'	9/3/2020
Division Chair:	Timothy Guin — Digitally signed by Timothy Guin DN: cn=Timothy Guin, o=Division Chair, ou=VOCS, email=guint@wcjc.edu, c=US Date: 2020.09.03 13:48:24 -05'00'	9/3/2020
Dean/VPI:	Leigh Ann Collins — Digitally signed by Leigh Ann Collins Date: 2020.09.29 10:19:16 -05'00'	
Approved by CIR:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Equipment Lubrication	One week
Reading Diagrams	One week
Valves	One week
Pumps	One week
Compressors	One week
Steam Turbines	One week
Heat Exchangers	One week
Cooling Towers	One week
Reactors	One week
Distillation towers	One week
Centrifuge Operations	One week
Boilers and Auxiliaries	One week
Fired Heaters/Furnaces	One week
Flare Stacks	One week

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

Define and use terminology; identify and describe components, basic functions and scientific principles associated with process equipment.

Methods of Assessment:

Written Exams
Equipment Simulation Systems
Team Project

SKILL STANDARDS LEARNING OUTCOMES

The following list of learning outcomes are Key Activities from the Chemical/Refining Process Technician skill standards, developed by the North American Process Technology Alliance (NAPTA), and recognized by the Texas Skill Standards Board (TSSB). These outcomes have been integrated into the PTAC-1410, Process Technology I– Equipment course:

1.Monitor and Regulate Fired Heater/Furnace
2. Monitor and Regulate Cooling Water System
3. Monitor and Regulate Boiler System
4. Monitor and Regulate Heat Exchanger System
5. Monitor and Regulate Flare System

Required text(s), optional text(s) and/or materials to be supplied by the student:

Process Technology Equipment - 2nd edition
ISBN13: 9780134891262
ISBN10: 0134891260

Suggested Course Maximum:

20

List any specific or physical requirements beyond a typical classroom required to teach the course.

1. Glass Distillation Column and Batch Reactor
2. Instrument Room for Review of Controllers
3. Hands On Training Skid Equipment
4. Equipment cutaways
5. Pump API Seal Plans

Course Requirements/Grading System:

1.Four major tests
2.Cross Disciplinary Skills (work ethic, safety, teamwork, housekeeping, independent thinking and problem solving, attitude, daily performance including preparation, computer proficiency)
3.Special Team Projects
4.Final examination

The following method is used to arrive at the final grade:

Four Major Tests	40%
Daily Grade including Cross Disciplinary skills	10%
Special Team Projects	20%
Final Exam	30%

The grade classifications as outlined in the College Catalog are employed:

A	Excellent	100-90
B	Good	89-80
C	Average	79-70
D	Poor (lowest passing grade)	69-60
F	Failure	59 and below

Curriculum Checklist:

☐**Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.

☐**Administrative WCJC Core Course**. Attach the Core Curriculum Review Forms

- ☐Critical Thinking
- ☐Communication
- ☐Empirical & Quantitative Skills
- ☐Teamwork
- ☐Social Responsibility
- ☐Personal Responsibility

☒**WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist