Wharton County Junior College

Administrative Master Syllabus

Course Information

Course Title	Process Technology II - Systems
Course Prefix, Num. and Title	PTAC 2420 Process Technology II - Systems
Division	Vocational Science
Department	Process Technology
Course Type	WECM Course
Course Catalog Description	A study of the various process systems, including related scientific principles.
Pre-Requisites	PTAC 1410 and PTAC 1432
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 13:10:03 -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 13:10:20 -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 13:50:22 -05'00'	9/3/2020
Dean/VPI:	Leigh Ann Collins Digitally signed by Leigh Ann Collins Date: 2020.09.29 10:20:27 -05'00'	
Approved by CIR:		

Additional Course Information

Topical Outline:

Overview of Plant Systems	One Weeks
Utility Systems	Three Weeks
Reaction Systems	Two Weeks
Relief/Flare Systems	Two weeks
Separation Systems	Four Weeks
Blending	One Week
Loading/Unloading	Two Weeks
Storage Systems	Two Weeks
Lab Work: Simulators:	
® Simtronics Steam Generator	
® Simtronics Benzene Reactor	
® Simtronics De-Hexanizer	
® Simtronics De-Propanizer	
® Ingeniuous Reactor Simulator	
Skid: Reactor Skid	

Course Learning Outcomes:

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

Describe the purpose and function of common process systems; and explain and demonstrate the operation of each process system.

TEXAS 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-2420, Process Technology II – Systems course.

1.	Monitor and Regulate Stripping System	Written Exam Simtronics Simulators Performance
2.	Monitor and Regulate Filtration System	Written Exam Simtronics Simulators Performance
3.	Monitor and Regulate Absorption Syst	Written Exam Simtronics Simulators Performance
4.	Monitor and Regulate Adsorption System.	Written Exam Simtronics Simulators Performance
5.	Monitor and Regulate Extraction System	Written Exam Simtronics Simulators Performance
6.	Monitor and Regulate Dehydration System	Written Exam Simtronics Simulators Performance
7.	Monitor and Regulate Refrigeration System	Written Exam Simtronics Simulators Performance
8.	Monitor and Regulate Batch Reaction System	Written Exam Simtronics Simulators Performance
9.	Monitor and Regulate Electrical Generation/Distribution System	Written Exam Simtronics Simulators Performance
10.	Monitor and Regulate Thermal Oxidation System	Written Exam Simtronics Simulators Performance

11.	Monitor and Regulate Storm Water System.	Written Exam Simtronics Simulators Performance
12.	Monitor and Regulate Waste Water System.	Written Exam Simtronics Simulators Performance
13.	Monitor and Regulate Process Water System.	Written Exam
14.	Monitor and Regulate Potable Water System.	Simtronics Simulators Performance
15.	Monitor and Regulate Fire Water System	Written Exam
16.	Monitor and Regulate Service Water System	Simtronics Simulators Performance
17.	Monitor and Regulate Boiler Feed Water System	Written Exam
18.	Monitor and Regulate Condensate System.	Simtronics Simulators Performance
19.	Monitor and Regulate Natural Gas System	Written Exam
20.	Monitor and Regulate Fuel Gas System.	Simtronics Simulators Performance
21.	Monitor and Regulate Nitrogen System.	Written Exam

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

Process Technology Systems 1st Edition by Michael Speegle

ISBN-13: 978-1418039998, ISBN-10: 1418039993

Suggested Course Maximum: 20

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

Drafting or Engineering Template
Skid Room for Glass Distillation Column and Batch Reactor
Instrument Room for Review of Controllers
Hands On Training Skid Equipment
Equipment cutaways

Course Requirements/Grading System:

1. 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:

Major Tests		40%
Daily Grade (Homework, Cross Disciplinary skills)	10%	
Special Team Project		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