# Administrative Master Syllabus

## Course Information

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|---|---|
| **Course Title** | Introduction to Process Technology |
| **Course Prefix, Num. and Title** | PTAC 1302 Introduction to Process Technology |
| **Division** | Vocational Science |
| **Department** | Process Technology |
| **Course Type** | WECM Course |
| **Course Catalog Description** | An introduction overview of the various processing industries. Topics include process technician duties, responsibilities and expectations; plant organizations; plant process and utility systems; and the physical and mental requirements of the process technician. |
| **Pre-Requisites** | TSI satisfied in Reading or concurrent enrollment in INRW 0307 |
| **Co-Requisites** | Enter Co-Requisites Here. |

## Semester Credit Hours

| | |
|---|---|
| **Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours** | 3:3:0 |
| **Equated Pay Hours** | 3 |
| **Lab/Other Hours Breakdown: Lab Hours** | Enter Lab Hours Here. |
| **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:** | | |
| **Department Head:** | | |
| **Division Chair:** | | |
| **Dean/VPI:** | | |
| **Approved by CIR:** | | |

# Additional Course Information

## Topical Outline:

| | |
|---|---|
| 1. History of the Process Industry and the Role of the Modern Technician | One week |
| 2. Basic Chemical Plant Operations and Operator Responsibilities including multi-tasking and stress management. | One week |
| 3. Safety, Health, and the Environment/Dangers within plants and the role of PSM (Process Safety Management)/Quality | One week |
| 4. Developing and Writing a Resume/Guest Speakers (two local plant managers (what plants expect of new technicians) /Field Trip to 3 local plants (one group per plant) | One week |
| 5. Basic Process Chemistry/Basic Process Physics | One week |
| 6. Heat Exchange/Heat Exchangers (Part 1) | One week |
| 7. Heat Exchangers (Part 2) Cooling Towers and Fin Fans | One week |
| 8. Overview of Plant Systems (How equipment becomes components of larger systems)/ Compressors | One week |
| 9. Overview of Plant Utility Systems including Compressors (Plant Air, Natural Gas, Plant Gases), Electrical and Water Systems Steam Turbines/Boilers | Two weeks |
| 10. Overview of Distillation (Binary, Crude, Vacuum and Extractive) | One week |
| 11. Introduction to Process Instrumentation/Reading Prints and Flow Diagrams AND Plant Communications: Interpreting/Writing Instrument Symbology | Two Weeks |

## Course Learning Outcomes:

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

Describe the roles, responsibilities, safety, environmental, and quality concepts associated with the work environment of a process technician

**Methods of Assessment:**

Exams
Hands on training certification
Final exam

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

Introduction to Process Technology, 2nd Edition
CAPT(Center for the Advancement of Process Tech)
ISBN-13: 978-0-13-480824-6

## Suggested Course Maximum:

30

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

Neutralization Skid

## 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. Hands on training - Neutralization Skid Certification Skid written exam – 80% passing criteria
4. Final examination

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

Major Tests                                                    40%
Hands on Training                                    20%
Daily Grade (Homework, Cross Disciplinary skills)        10%
Final Exam                                                    30%

| 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