
COURSE SYLLABUS

DIVISION: Workforce Services

Revised: January 2015

CURRICULA IN WHICH COURSE IS TAUGHT: Polymer Manufacturing Technology

COURSE NUMBER AND TITLE: IND 195- Introduction to Extrusion (3 Credits)

CREDITS: 3

HOURS/WEEK LECTURE: 3

HOURS/WEEK LAB: 0

LECTURE/LAB COMBINATION: 3(0)

I. COURSE DESCRIPTION:

The Extrusion Course provides insight into the Extrusion process and the equipment required to complete an Extrusion process covering topics in dryer, hopper, extruder (components) screen changer, static mixer (optional) die, calibration unit, puller and cutoff device

II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES IN WHICH IT IS TAUGHT:

Required in the Polymer Manufacturing program

III. REQUIRED BACKGROUND: None

IV. COURSE CONTENT / COURSE OUTLINE:

1. Extrusion Materials and Processes

- Recognize common sources of material contamination, which may occur during the raw material handling stage.
- Explain the importance of the basic instrumentations that are critical to the efficiency of a drying system, in the form of ammeters, voltmeters, thermocouples, and dew point meters.
- Identify the various parts of the continuous extrusion operation.
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2. Extrusion Process

- Define profile extrusion and understand how profile measurement is performed.
- Explain profile cutoff.
- Recognize the many factors that affect the quality of the sheet surface.

3. Equipment for Extrusion

- Identify the equipment required to complete the extrusion process and explain the functions of each.
- List design features of the extruder necessary for specific flow properties of the polymer to be extruded.
- Develop an understanding of the cooling systems used in the extrusion process

V. LEARNER OUTCOMES:

VI. EVALUATION:

<ul style="list-style-type: none">• Understand the components and processes involved in an extrusion operation.• Identify variables in the extrusion process and the effect these variable can have on production.• Explore extrusion equipment, in order to understand the mechanics of the extrusion process.	Combination of attendance, participation, quizzes, homework, projects and test.
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The course supports the following objectives:

DCC Educational Objectives

1. Communication
2. Critical Thinking
3. Computational and Computer Skills
4. Understanding Culture and Society