TECHNOLOGY 345: Plastic Molding Processes

2007-08 Catalog Data: TECH 345 Plastic Molding Processes (4 Credits)

Catalog Description: Study of plastic molding processes including injection molding, compression molding, transfer molding, extrusion, blow molding, rational molding, and reaction injection molding. Course includes manufacturing problems, mold analysis, screw design, ancillary equipment, and plastication theory.

Prerequisites: Tech 344

Co-requisites: None

Textbooks:

- Plastics, Materials and Processing, 2nd Edition, A. B. Strong, Prentice Hall, Upper Saddle River, New Jersey, 2000.

Instructor: Robert A. Tatara, PhD

Learning Objective	**Relational NAIT and ABET Learning Outcomes**	**Performance Assessment**
Understanding of plastics processing equipment	A. An appropriate mastery of the knowledge, techniques, skills and modem tools of their disciplines. B. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology. D. An ability to apply creativity in the design of systems, components or processes appropriate to program objectives. F. An ability to identify, analyze and solve technical problems. G1. An ability to communicate effectively in writing. L. An ability to program computers and/or utilize computer applications effectively	Quizzes, Homework, Tests, and Class Questions
Knowledge of plastics processing	A. An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines. B An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.. D. An ability to apply creativity in the design of systems, components or processes appropriate to program objectives. F. An ability to identify, analyze and solve technical problems. G1. An ability to communicate effectively in writing. L. An ability to program computers and/or utilize computer applications effectively.	Quizzes, Homework, Tests, and Class Questions
Laboratory operation of plastics processing	A. An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines. C. An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes.	Laboratory Reports

equipment	E. An ability to function effectively on teams. F. An ability to identify, analyze and solve technical problems. G1. An ability to communicate effectively in writing. G2. An ability to communicate effectively orally. I. An ability to understand professional, ethical and social responsibilities. K. A commitment to quality, timeliness, and continuous improvement. L. An ability to program computers and/or utilize computer applications effectively. M. An ability to use modem laboratory techniques, skills, and/or equipment effectively.	
Ability to utilize injection molding software for mold design	A. An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines B. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology. D. An ability to apply creativity in the design of systems, components or processes appropriate to program objectives. E. An ability to function effectively on teams. F. An ability to identify, analyze and solve technical problems. G2. An ability to communicate effectively orally. H. A recognition of the need for, and an ability to engage in lifelong learning. L. An ability to program computers and/or utilize computer applications effectively.	Class Questions