

TECHNOLOGY 262: Machine Production Processes

2007-08 Catalog Data: TECH 262 Machine Production Processes (3 Credits)

Catalog Description: Detailed study of traditional and contemporary methods of metal machining. Laboratory experience includes the fundamentals of machine tool setup and operation, precision measurement techniques, and machine tool safety, care and maintenance.

Prerequisites: TECH 211

Co-requisites: None

Textbooks:

- Machine Tool Practices, 8th Ed., Kibbe, Meyer, Neely & White

Instructor: Tim Porter

Learning Objectives	Relational ABET Learning Outcomes
Develop basic machine tool processing knowledge, abilities, and skills.	A. An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines. G. An ability to communicate effectively in writing. K. A respect for diversity and knowledge of contemporary professional, societal and global issues.
Expand machine tool processing knowledge, abilities, and skills through experience with traditional process.	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.
Complete assigned projects as directed within safety, planning, and specifications consistent with items above.	C. An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes. E. An ability to function effectively on

	<p>teams.</p> <p>L. A commitment to quality, timeliness, and continuous improvement.</p> <p>N. An ability to use modern laboratory techniques, skills, and/or equipment effectively.</p> <p>O. An ability to manage projects effectively.</p>
<p>Demonstrate understanding of function and application of processes through examination and discussion and operation.</p>	<p>I. Recognition of the need for, and an ability to engage in lifelong learning.</p> <p>N. An ability to use modern laboratory techniques, skills, and/or equipment effectively.</p> <p>O. An ability to manage projects effectively.</p>
<p>Provide study and understanding of nontraditional processes in manufacturing.</p>	<p>F. An ability to identify, analyze and solve technical problems.</p> <p>G. An ability to communicate effectively in writing.</p> <p>I. Recognition of the need for, and an ability to engage in lifelong learning.</p>

Topics Covered:

- Basic Machining Techniques
- Safety
- Measurements, Layout, Inspection, and Setup Tools
- Threads and Threading
- Traditional Machine Tools
- Saws
- Lathe
- Milling Machine
- Grinding Operations
- Hand Tools
- Manufacturing Technology
- Heat Treating
- Coordinate Measuring Systems
- Electrical Discharge Machining
- Super abrasive Technology
- Waterjet cutting
- Stereo lithography
- Metal spinning