

MAC 248
PRODUCTION PROCEDURES

COURSE DESCRIPTION:

Prerequisites: MAC 111

Corequisites: None

This course covers product planning and control as well as scheduling and routing of operations. Topics include cost-effective production methods, dimensional and statistical quality control, and the tooling and machines required for production. Upon completion, students should be able to plan, set up, and produce cost-effective quality machined parts. Course Hours Per Week: Class, 1. Lab, 2. Semester Hours Credit, 2.

COURSE OBJECTIVES:

Upon completion of the course the student will be able to:

- a. Produce multiple parts using production procedures (parts such as milling vise stop, milling table stop, plumb bob, lathe collet stop, etc.)
- b. Assemble parts that are manufactured per instructor's direction or an assembly drawing and check for accuracy.
- c. Create/draw a cost effective layout of a machine shop.
- d. Understand the concept of a production workplace maintaining dimensions to print tolerances on CNC and manual machines
- e. Understand and define Methods Time Management (estimation versus actual production time.)
- f. Create a process-planning sheet (step by step procedure) to produce multiple parts.
- g. Understand the different Quality Control standards.

OUTLINE OF INSTRUCTION:

- I. Safety
 - A. Production set-up for mill
 - B. Production set-up for lathe
 - C. Production set-up for grinders

- II. Types of production
 - A. Custom production
 - B. Job-lot production
 - C. Line production

- III. Manufacturing must be planned
 - A. Identifying consumer demands
 - B. Designing and engineering products
 - C. Planning production
 - D. Planning QC

- IV. Produce a product
 - A. Process sheet
 - B. QC plan
 - C. Assign work areas
 - D. Assembly

REQUIRED TEXTBOOK AND MATERIALS:

None

The instructor will use various handout generated by Durham for production and procedures.

STATEMENT FOR STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 686-3652 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.