

TECH PREP/MTAG CURRICULUM

Manufacturing Planning

Lesson Plan

Time Allotment: 10 hours
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MODULE DESCRIPTION

This module provides the knowledge and skills necessary to organize and plan a manufacturing/engineering project. Use of the actual planning paper provides direct carryover to the work floor.

MODULE OBJECTIVE

After completing this module, students should be able to access and use a variety of resources (human, equipment, tools, plans, vendors and materials) to plan and complete projects according to process and time requirements.

MTAG COMPETENCIES INTRODUCED

- F5.1 Locate/retrieve production materials specific to process flow & delivery schedule
- F5.3 Prepare resources for production
- I8.1 Develop a process plan
- I8.4 Explain bill of materials to include purchasing and resources

MANUFACTURING SKILLS STANDARDS INTRODUCED (MSSC)

- P5 A. Skill in calculating time estimates for jobs.
- P6 Workflow Planning A. Skill in making job assignment and coordinating workflow.
C. Knowledge of production schedules.
- QA5 Planning and Scheduling: B. Skills in developing schedules.
D. Knowledge of production schedule in order to keep workflow running smoothly.

PERFORMANCE CRITERIA

- Students will be able to schedule the flow of materials into the production process
- Students will be able to allocate resources for effective and efficient production
- Students will be able to develop an effective process plan.
- Students will be able to fill out a bill of materials to identify resources and purchases to ensure a continuous flow of the production process.

SEQUENCING

Introduction

- Planning in daily life

- Activity Planning Exercise

- The Function of Manufacturing Planning

Graphical Planning Representations

- The Product Structure Diagram

- The Bill Of Materials

- Skill Check 1: Creating an Indented Bill of Materials

Working with Lead-times

- The Time Phase Diagram

- Skill Check 2: Creating a Time Phase Diagram

- The Manufacturing Planning Sheet

Final Planning Exercise

Module Evaluation

SUPPLIES NEEDED

Overhead Projector

White board or chalkboard

A set of colored markers for the white board

3x5 cards (pack of 30)

Lego TM Part # 6525 Blaze Commander or similar Lego kit available from

(<http://shop.lego.com>) or Erector Set available from (<http://www.brio.net>)

Instructor Note: 10-20 piece Lego or Erector Set kits work well for the final activity and are available for under \$5. Visit either of the websites listed above for a catalog of currently available kits as well as a listing of local merchants/distributors.

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RECOMMENDED STUDENTS PREREQUISITES

Completed the following modules:

- Introduction to Manufacturing,

- Technical Drawing Interpretation

Instructor Note: This module will function best when taught by an instructor with experience in Manufacturing Planning.