Grant Title: **Accelerated Pathways in Advanced Manufacturing (APAM)**

Author: **Community College of Rhode Island**

Link: http://www.ccri.edu/

Document: *Manufacturing Boot Camp*

DOL Disclaimer Statement:

Manufacturing Skills "Boot Camp"

## A FREE course offered by CCRI's Engineering and Technology Department

General information

Prerequisites: Potential students must be able to read and write at an eighth-grade level and perform basic arithmetic operations.

Course description: This course will introduce students to the basic skills and knowledge needed for employment in the modern manufacturing industry. It will cover basic hand tools, introductory shop math, blueprint reading, measurements and an introduction to basic machining. A fabrication project will be used to integrate the various skills and knowledge learned. By the end of the class, students will know what advanced manufacturing is about, what skills are needed to succeed and the employment opportunities available in advanced manufacturing.

Course hours: This is a 60-hour program that has both lecture and laboratory components. In the labs, students will develop basic skills needed for employment and future study. There also will be opportunities for students to discuss job opportunities with industry representatives.

This program is sponsored in part by a U.S. Department of Labor Employment and Training Administration TAACCCT grant.
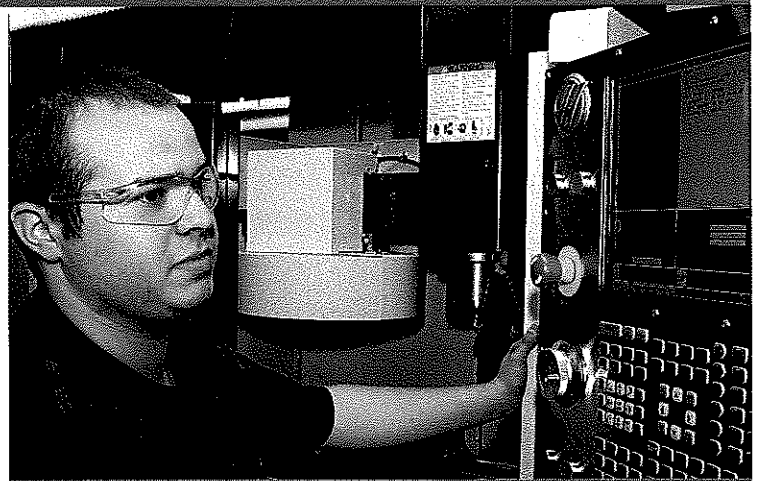
Course objectives

Students shall demonstrate the ability to:

1. Safely use hand tools and powered machines.

2. Document procedures, tool use and project steps with an engineering journal.

3. Work with and interpret blueprints.

4. Plan a project and organize the needed tasks.

5. Determine the appropriate tools or machining processes.

6. Use various measurement tools.

7. Perform basic fractional, geometric and trigonometric calculations.

8. Perform basic drill press, lath and vertical mill operations.

9. Freehand sketch a mechanical component or fixture.

10. Use basic SolidWorks software commands and procedures.

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Manufacturing jobs

The goal of this course and several of CCRI's Engineering and Technology programs is to prepare you for jobs in the manufacturing industry. Examples of jobs a student would be prepared for after completing this class include, but are not limited to:

- Apprentice machinist
- CNC machine operator
- Lathe operator I
- Milling machine operator I
- Machine maintenance technician I
- Manufacturing technician
- Tool and die apprentice
- Machine tool cutting operator

Grades

Grading is optional. If a student choses to be graded and achieves a "C+" or greater, credits could be awarded at a later date. For those who choose to receive a grade, grading will be based on the following:

Skill demonstrations	30 percent
Take-home assignments	20 percent
Fabrication project	50 percent

For more information contact:

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Space is limited. Seats will be assigned on a first-come, first-served basis.

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