

**Course Outline**  
**IMTC 218**  
**Machine Shop II**  
**3 Semester Hours**

The Community College of Baltimore County

**Description**

Machine Shop II

Covers two basic machine tools of the machine shop, the lathe and milling machine; examines the basic parts of each machine and how to safely operate each machine, grind cutting tools, turning, facing, drilling boring, chasing external and internal threads on the lathe.

Prerequisite: IMTC 118

**Overall Course Objectives**

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

- A. work safely using O.H.S.A. safety rules.
- B. operate engine lathes & milling machines.
- C. describe main parts of lathes and milling machines.
- D. explain feeds and speeds on machine tools.
- E. remove metal by facing, turning, drilling, boring on lathe.
- F. chase internal threads.
- G. chase external threads.
- H. explain tapping procedures on lathe.
- I. demonstrate basic milling practices on milling machines.
- J. demonstrate milling keyways in shafts.
- K. describe fits and tolerances on mating parts.
- L. indicate material in lathe and milling machines using dial indicator.
- M. machine parts to within + or - .001 of an inch.

**Major Topics**

List all major topics in outline form if appropriate

- I. Introduction to Machine Shop
- II. Lathe accessories and tooling
- III. Cutting speeds and feeds – mount and remove accessories
- IV. Mounting work between centers/machining between centers
- V. Knurling, grooving should turning
- VI. Taper turning/machining in a chuck
- VII. Threads and thread cutting
- VIII. Milling machine/accessories
- IX. Milling machine set-up/horizontal milling
- X. Vertical milling machines/operations

## **Course Requirements**

Exams            75%

Quizzes          25%

(Subject to revision by the instructor)

## **Other Course Information**