

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
AUT 120 - INTRODUCTION TO AUTOMOTIVE MACHINE SHOP (3 CR.)**

Course Description

Introduces automotive machining operations emphasizing shop safety and the safe use of machine shop tools. Surveys basic machining operations and specialized auto machining techniques necessary for reconditioning engine and chassis components. Requires basic set of machinist's hand tools. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

General Course Purpose

This course is a study of fundamentals of modern automotive machine shop practices. Emphasis is placed on shop layout, safety, laboratory procedures, measuring and basic machining operations. Particular attention is given to machining practices at the introductory level and simple operations of automotive machine shop tools and equipment.

Lecture and laboratory demonstrations will cover, in detail: measuring devices, metal characteristics, heat treatment, drilling, reaming, threading, grinding, and sawing. The student will develop an understanding of machining terminology, metric system, blueprint reading, and metallurgy. Laboratory experience is provided in welding, precision grinding, metal turning, and milling operations.

Course Prerequisites/Corequisites

None

Course Objectives

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

- Develop a thorough knowledge of machining fundamentals
- Develop a thorough knowledge of modern automotive machine shop practices
- Develop skills in the operation and use of machine shop tools and equipment
- Formulate safe and proper work habits necessary to the successful advancement in the automotive machine shop

Major Topics To Be Included

- Measuring
- Layouts, metal characteristics, heat treatment, and metal finishes
- Drilling, reaming, and threading
- Grinding, sawing, and cutting
- Fasteners
- Welding
- Turning and milling