



MET 237: Computer Numerical Control [CNC]

Instructor: Dr. Ali Almandeel

Office: Room 2162 | Building 204H

Office hours:

Sunday 12:50pm - 2:00pm

Tuesday 12:50pm – 2:00pm

Reference Book: Introduction to Computer Numerical Control by James V. Valentino & Joseph Goldenberg

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COURSE DESCRIPTION:

This course is intended for manufacturing students to broaden their knowledge domain regarding state of the art machining operations. Numerical technology provides accuracy and extra strength. Knowledge and skills regarding modern manufacturing systems that use CNC technology, are emphasized.

COURSE TOPICS:

- Introduction to CNC.
- CNC Fundamentals: Axis & Motion Nomenclature.
- CNC Milling Fundamentals.
- CNC Turning Fundamentals.
- Introduction to Programming Concepts.
- CNC Codes & Preparing a Program.
- CNC Milling: G-Codes & M-Codes.
- CNC Turning: G-Codes & M-Codes.

COURSE OBJECTIVE:

At the end of this course, students will be able to:

- Distinguish between conventional and CNC machine tools.
- Write part programs to machine work parts considering dimensions and finishing.
- Download CNC programs into machine controller and operating machines.

EVALUATION AND GRADING:

▪ Project	10%
▪ Midterms	30%
▪ Labs	10%
▪ Final exam	50%
▪ Bonus	5%
▪ Total	105%

EXAMINATIONS TIMETABLE:

- Midterm Exam 1: **Sunday, 20/10/2019.**
- Midterm Exam 2: **Sunday, 24/11/2019.**
- Final Exam: Time/date scheduled by the Office of the Registrar at CTS.