



# Wayne County Community College District

## COURSE SYLLABUS

### NC 235 CNC Machining Center Operation and Graphics II

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**CREDIT HOURS:** 3.00

**CONTACT HOURS:** 45.00

#### **COURSE DESCRIPTION:**

This course uses 3D graphics programming to produce a variety of mold parts. Surfaces are extruded, revolved, lofted and swept into a variety of shapes. Programs are modified for tool path, tooling, speed and feeds. The students gain further experience by manufacturing programming parts.

**PREREQUISITES:** *NC 230 or NC 231*

#### **EXPECTED COMPETENCIES:**

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

1. Operate a numerically controlled machining center.
2. Create and edit wire frame part geometry.
3. Use associative graphics and associative toolpath editing.
4. Develop the fundamental skills of graphics programming.
5. Create, edit, modify, and verify Cad models and 3D tool paths.
6. Use a variety of viewing and verification techniques.
7. Use Cam milling tool Libraries and post processors.
8. Customize Cad/Cam environment settings.
9. Apply machining center tooling to the program sequence.
10. Import and edit geometry from Cad systems.
11. Use a variety of surface types for creative part designs.
12. Sequence and reorder machining feature functions.
13. Develop a practical understanding of Cad design for manufacturing.
14. Control the customization of manufacturing through automation.

#### **ASSESSMENT METHODS:**

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

#### **GRADING SCALE:**

90%-100% = A  
80%-89.9% = B  
70%-79.9% = C  
60%-69.9% = D  
<60% = E