

Clackamas Community College

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Section #1 General Course Information**Department:**Manufacturing**Submitter**

First Name: Mike

Last Name: Mattson

Phone: 3322

Email: mattsonm

Course Prefix and Number:MFG - 272

Credits:4**Contact hours**

Lecture (# of hours):

Lec/lab (# of hours): 88

Lab (# of hours):

Total course hours: 88

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

Course Title:Mastercam Mill II**Course Description:**

Students construct three-dimensional geometric models using solids and surface modeling techniques. Students program models using advanced multi-axis programming techniques utilizing all aspects of roughing and finishing. Projects verified with solids toolpath verification.

Type of Course:Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s):Manufacturing Programs

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

Are there any requirements or recommendations for students taken this course?

Yes

Recommendations:Completion of MFG-271 or prior experience

Requirements:None

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit:Yes

When do you plan to offer this course?

✓ Not every term

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. construct 2D and 3D surfaces and complex solid models,
2. create, edit and verify 3D toolpaths roughing and finishing bosses and cavities;
3. build complete toolpath operations to rough and finish projects,
4. define terminology relative to solids, surfaces and 3d machining;
5. use Collision Gouge checking on all programs,
6. use high feed machining on all programs.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Surfaces.
 - a. System Configuration settings.
 - b. Surface Types – Mathematics.
 - c. Surface Creation Types.
 - c1. Geometric Surfaces.
 - c2. Free Form Surfaces.
 - c3. Derived Surfaces.
 - d. Surface Association.
 - e. Surface Operations.
 - f. Do's and Don'ts.
2. Surface Projects.
 - a. Definitions worksheet.
 - b. Basket.
 - c. Bowl.
 - d. Cyltrim Wire.
 - e. Dryer.
 - f. Fan.
 - g. OATC.
 - h. Peephole.
 - i. Strut.
 - j. Wheel.
3. Solids.
 - a. Primitives.
 - b. Free form.
 - c. Derived.

- d. Common Parameters.
- e. Boolean constructs.
- 4. Projects.
 - a. Solid Terminology Worksheet.
 - b. Capsolid.
 - c. Checkbwr.
 - d. Complex block.
 - e. Ex-24.
 - f. Ex-25.
 - g. Imptsave.
 - h. OATC.
 - i. Oblique block.
 - j. Ronsjob.
 - k. Solid trim.
 - l. Strut.
 - m. Solids worksheet.
 - n. E-8 set of parts.
 - o. E-9 set of parts.

Does the content of this class relate to job skills in any of the following areas:

- | | |
|--------------------------------------|-----------|
| 1. Increased energy efficiency | No |
| 2. Produce renewable energy | No |
| 3. Prevent environmental degradation | No |
| 4. Clean up natural environment | No |
| 5. Supports green services | No |

Percent of course:0%

First term to be offered:

Next available term after approval

:
