

# *Edison State Community College*

## Syllabus for **Survey of Manufacturing Processes (MFG 114S)**

**PREREQUISITE:** None

**ACADEMIC CREDIT:** 4 Semester hours

**COURSE DESCRIPTION:** Nomenclature, functions and capabilities of the machine shop and manufacturing processes. Students will complete projects utilizing common pieces of machine shop equipment including drill presses, lathes, milling machines and surface grinders.

**REQUIRED SUPPLIES:** None

**TEXTBOOK:** Hoffman, Peter J. and Eric S. Hopewell, *Precision Machining Technology*, 3rd edition, (Cengage Learning, 2018).

Additional projects and study materials will be provided by the instructor.

**GRADING POLICIES:** Your grade will be determined by your accumulated performance on:

- Midterm exam and final exam (50%)
- Quizzes (20%)
- Graded projects (30%)

The grade of each assignment will be reduced by 10% for each class period that it is late.

Final letter grades will be assigned as follows:

A = 90% to 100%  
B = 80% to 89%  
C = 70% to 79%  
D = 60% to 69%

**ATTENDANCE POLICY:** Attendance is a critical component to your success in this course. Being absent could result in missed lab time that is difficult to make up. Because of this, the following attendance policy applies:

**\*\* Students who miss 3 or more classes will not pass this class\*\***

If you do miss a class, contact your instructor for advice on catching up on missed material. At the option of the instructor, graded assignments may be submitted within one week without penalty.

***If you should miss an exam***, you are responsible for arranging to make it up! No credit can be given if you do not take a missed exam within one week of your absence.

|           |                                                                                                |                                                                                                                                             |                            |
|-----------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <b>9</b>  | Discuss Midterm Exam; Sixty degree thread cutting; Threading demonstration; Work on project 2. | Manual lathe threading; pgs. 432-445.                                                                                                       |                            |
| <b>10</b> | Finish project 2; Introduction to vertical milling machines                                    | Introduction to the vertical milling machine; pgs. 469-481. Tools, toolholding, and workholding for vertical milling machine; pgs. 483-501. | Project 2                  |
| <b>11</b> | Milling machine demo; Climb milling/conventional milling; Begin project 3.                     | Vertical milling machine operations; pgs. 504-519.                                                                                          | Vertical milling worksheet |
| <b>12</b> | Surface grinding; Work on project 3.                                                           | Introduction to precision grinding machines; pgs. 560-565. Grinding wheels; pgs. 567-571.                                                   | Vertical milling quiz      |
| <b>13</b> | Surface grinding demo; Grind project 3.                                                        | Surface grinding operations; pgs. 573-583.                                                                                                  |                            |
| <b>14</b> | Selecting the right material; Heat treating; Finish project 3                                  | Metal composition & classification; pgs. 158-173. Heat treating; pgs. 175- 188.                                                             | Project 3                  |
| <b>15</b> | Review for final exam; Careers in machining                                                    | Careers in machining; pgs. 16-23                                                                                                            |                            |
| <b>16</b> | Final Exam                                                                                     |                                                                                                                                             | Final exam.                |