COURSE: MFG 260 Manufacturing Engineering Technology Field Experience

CREDITS: 2 (0:100:2)

INSTRUCTOR: MFG Department Faculty

PREREQUISITES: SDV 101 Career Development and permission of the department head. This course should be taken at the end of the student’s program of study.

TEXT: There is no text required for this course.

COURSE DESCRIPTION: In order to obtain an actual training experience, the student secures or is placed in an approved position relevant to his or her areas of emphasis. The student is required to develop, in cooperation with the instructor and field supervisor, a learning contract for the field experience. Supervision and grading of the training experience are provided by both the instructor and the field supervisor. Hours: 100 as an intern. Prerequisites: SDV 101 and permission of the department head. Usually offered in the fall, spring, and summer.

COURSE OBJECTIVES: * see note

1. Integrate skills and knowledge learned in the program courses into the workplace setting.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
   - Get employer approval on all rating forms in this syllabus

   Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

2. Describe and explain the company structure and its business sector.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
   - Get employer approval on all rating forms in this syllabus

   Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

3. Describe the student role in engineering and technology within the company.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
   - Get employer approval on all rating forms in this syllabus

   Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives
4. Use ANSI standard technical drawings, acceptable to the field experience site operations.
   - Get employer approval on all rating forms in this syllabus
   - Use vocabulary and course principles to employment standards for technical drawings

Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

5. Show proficiency in manufacturing techniques acceptable for the field placement site.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
   - Get employer approval on all rating forms in this syllabus
   - Use vocabulary and course principles to employment standards for manufacturing processes

Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

6. Explain a quality system and industry accepted strategies for implementation.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
   - Get employer approval on all rating forms in this syllabus
   - Use vocabulary and course principles to employment standards for quality system implementation

Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

7. Demonstrate the use of computer-aided manufacturing techniques based on employment standards.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
   - Get employer approval on all rating forms in this syllabus
   - Use vocabulary and course principles to employment standards for CAM

Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

8. Demonstrate skills with employer recognized quality management processes.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
   - Get employer approval on all rating forms in this syllabus
   - Use vocabulary and course principles to employment standards for quality management

Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

9. Demonstrate proficiency in the use of CAD based on employment standards.
   - Write 3 unique objectives with learning activities specific to the workplace setting for your field placement
   - Get employer approval on all rating forms in this syllabus
   - Use vocabulary and course principles to employment standards for CAD

Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives
10. Calculate material, strength, load and force projections to recognized engineering standards.
-Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
-Get employer approval on all rating forms in this syllabus
-Use vocabulary and course principles to employment standards for load and force projections
Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

11. Integrate CAD with computer aided manufacturing to employment standards.
-Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
-Get employer approval on all rating forms in this syllabus
-Use vocabulary and course principles to employment standards for integrating CAD to CAM
Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

12. Demonstrate competence with hydraulic systems appropriate to the field site to employment standards.
-Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
-Get employer approval on all rating forms in this syllabus
-Use vocabulary and course principles to employment standards for hydraulics and fluid power
Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

13. Select materials for production of quality items based on employment standards.
-Write 3 unique objectives with learning activities specific to the workplace setting for your field placement on a signed Learning Contract and Agency Agreement
-Get employer approval on all rating forms in this syllabus
-Use vocabulary and course principles to employment standards for materials choice and quality
Assessment: A unique evaluation will state Employer and Teacher rating criteria for the three unique objectives

*Note: Course objectives not met at agency placement must be addressed as a report or case study and summarized in the required paper.

Addresses GEO Objectives 1,2,3,4,5,6,7,8
REQUIREMENTS:

1. Have an agency agreement signed by the site supervisor on file at Wor-Wic. No work can be completed or hours logged until this is completed.
2. Complete a 100 hour placement in a work environment approved by the Department Head. Meet with the faculty supervisor at least 3 times during the field experience.
3. Meet with the faculty supervisor and the onsite supervisor to develop a learning contract.
4. Maintain a journal which includes a log of hours, dates worked and a summary of duties performed. Your journal should include one of the following statements for each entry:
   - This is like I learned in MFG/CAD/EET ___.
   - This is different than what I learned in MFG/CAD/EET ___.
   - This was a new skill I learned.
5. Complete an academic paper assigned. 500 word minimum explaining what you learned from your field experience and what advice you might give to other students who still need to complete a field experience. Graded using the following rubric:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>25</th>
<th>20</th>
<th>15</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of coursework to field experience (Think critically and reason logically GEO 2)</td>
<td>The paper ties the student’s course work at Wor-Wic to their field experience and explains how they were able to apply their course material to real world situations.</td>
<td>The paper ties the student’s course work at Wor-Wic to their field experience and explains how they were able to apply some of their course material to real world situations.</td>
<td>The paper ties the student’s course work at Wor-Wic to their field experience but does not demonstrate any application of course material to real world situations.</td>
<td>Little to no explanation of how coursework related to their field experience.</td>
</tr>
</tbody>
</table>

6. Request completion of RFE Employer Evaluation of student/program specific evaluation from the onsite supervisor and forward it to the college faculty member at the end of the semester.
7. Complete an evaluation of the agency and submit it to the faculty supervisor at the completion of the field experience.

GRADING:

- Faculty Evaluation of Student Learning Contract/Performances 75 points
- Supervisor Check sheet: “Employer Evaluation of Student” 75 points
- Program Specific Evaluation (site Supervisor) 50 points
- Student Work Journal and log of attendance 50 points
- Required (Summary) Paper 50 points

Total: 300 points

Grade conversion scale

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>270-300</td>
<td>A</td>
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<tr>
<td>240-269</td>
<td>B</td>
</tr>
<tr>
<td>210-239</td>
<td>C</td>
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</table>

Manufacturing Engineering Technology MFG 260
OPERATIONAL GUIDELINES FOR RELATED FIELD EXPERIENCE

Below are the operational guidelines for Related Field Experience:

1. Students enrolled in a curriculum requiring a Related Field Experience (RFE) course should schedule the experience toward the end of the academic program. Faculty works with students on a one-to-one basis to select an appropriate field experience.

2. Prior approval of the academic advisor must be obtained to register for an RFE course.

3. A course syllabus, Agency Agreement, and Learning Contract, Log of Attendance and RFE student/program evaluation form will be given to each student enrolled in an RFE course by the faculty member.

4. A student enrolled in an RFE course will develop a learning contract which will be signed by the student and faculty member and approved by the department head or dean, and by a representative of the sponsoring agency.

5. The Student learning contract and agency agreement will contain the following items:
   A. Student’s name
   B. Faculty member’s name
   C. Academic Term and year
   D. Course number and hours required
   E. Agency address and phone number
   F. Field supervisor’s and agency head’s name (if different).
   G. Learning objective(s), activities and methods of evaluation to be used and deadline dates to meet these objectives
   H. Signatures of required persons
   I. Attendance log

6. To receive an “S” grade at midterm the student must contact the Faculty supervisor prior to an agreed upon date during the semester with an update of progress. Significant hours must be completed and current log of attendance/journal presented to the faculty supervisor to receive an S.
AGENCY AGREEMENT

OCCUPATIONAL FIELD EXPERIENCE

It is to the mutual benefit of this agency and Wor-Wic Community College to cooperate in occupational educational programs. It is also in the best interest of all parties involved to jointly plan for the organization, administration, and operation of this educational workplace field experience.

The following Wor-Wic Community College student is approved for field experience in the following agency:

Student Name: _____
Agency Supervisor: _____
Agency Name: _____
Address: _____
City: _____
Phone: _____

The days and times agreed to for the completion of this field experience include hours as follows:

_____
_____
(or see the attached schedule of days and hours)

Conditions:

The terms of this agreement shall be for the academic term noted above. Each party agrees to indemnify and hold harmless all parties from all liability arising out of acts or omissions in connection with any activity, which is subject matter of this agreement.

Each part of this agency agreement is an independent contractor and each complies with the nondiscrimination legislation and procedures required by law. With regard to the education experience identified herewith, each party does not discriminate on the basis of age, gender, race, color, religion, national origin, marital status, sexual orientation, genetic information or disability in the admission and treatment of students, access to educational programs and activities, and terms and conditions of employment. Student-related inquiries should be directed to the dean of student development at (410) 334-2893, and employment-related inquiries should be directed to the director of human resources at (410) 334-2920, or they can be mailed to the attention of these individuals at Wor-Wic Community College, 32000 Campus Dr., Salisbury, MD 21804.

This agency agreement is constituted under the laws and regulations of the Maryland Higher Education Commission and the State of Maryland.

___________________  __________  __________________________  __________
Faculty Signature  Date   Agency Head Signature  Date

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LEARNING CONTRACT
OCCUPATIONAL FIELD EXPERIENCE

Course Prefix No. ______________________________ Academic Year ________________
(Type or Print) Academic Term __________________

Student Name _________________________________ SSN# _______________________
Agency Site __________________ Agency Supervisor ____________________
Telephone __________________

List Student Learning Objectives and Activities: (Attach another page if necessary)

Methods of Evaluation by Field Supervisor:

Field Supervisor will evaluate student based on current workplace standards.

Methods of Evaluation by Faculty:

Faculty will evaluate student based on Academic Paper, Log of attendance, and Journal.

Grade _______ Student Signature _____________________
Verified Log of Attendance ___________ Faculty Signature _____________________

APPROVAL:
_______________________________________________________________
Department Head or Faculty Supervisor

Attach to: 1) Learning Contract Form; 2) Agency Agreement; 3) Attendance Log; and 4) Checksheet: Employer Evaluation of Student 5) Grade. (The Registrar will post the grade and send the student a copy.)
Employer Evaluation of Student

Student Name ____________________________________ Date __________________

RFE Location: ____________________________________

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<tr>
<th>Needs</th>
<th>Improvement</th>
<th>Acceptable</th>
<th>Good</th>
<th>Excellent</th>
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<tbody>
<tr>
<td>1. Attendance</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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<tr>
<td>2. Punctuality</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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<tr>
<td>3. Dependability</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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<tr>
<td>4. Initiative</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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<tr>
<td>5. Attitude</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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<tr>
<td>6. Interaction with clients</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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<tr>
<td>7. Interaction with staff</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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<td>8. Judgment</td>
<td>1 2</td>
<td>3 4</td>
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<td>9. Professionalism</td>
<td>1 2</td>
<td>3 4</td>
<td>5 6</td>
<td>7 8</td>
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- What are the student’s strengths?

- What, if any, are areas needing improvement?

- Additional comments:

_____ I have shared this evaluation with the student.

Signature ____________________________________       Date ________________

Field Placement Supervisor

_________________________       Date ________________

Student

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### Program Specific Evaluation

<table>
<thead>
<tr>
<th>Did Wor-Wic Community College prepare the student to:</th>
<th>Not Applicable</th>
<th>Unacceptable</th>
<th>Acceptable</th>
<th>Highly Acceptable</th>
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<td>1</td>
<td>2</td>
<td>3</td>
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1. Read and interpret basic prints
2. Demonstrate manufacturing techniques and nomenclature
3. Calculate metal force and load projections
4. Use MasterCam or toolpath generation software
5. Explain “quality” terms, philosophy or strategy for use
6. Integrate CAD with CAM
7. Demonstrate Quality Management processes
8. Show Competence with Hydraulic systems
9. Select Materials, from plastic, ferrous or non ferrous

**Comments:**

_____ I have shared this evaluation with the student.

Signature ___________________________ Date ______________________

Field Placement Supervisor

_______________________________ Date ______________________

Student

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LOG OF ATTENDANCE
Field Experience Hours of Attendance

NAME _______________________________  ________________________
SS # _________________________________  Field Supervisor
COURSE PREFIX # ____________________  ________________________
ACADEMIC TERM ________ Year ______  Agency Address
Hours Required ______________

<table>
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<tr>
<th>DATE</th>
<th>TIMES</th>
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PLACEMENT EVALUATION

Placement Location________________________

Student__________________________________

SS Number_______________________________

Supervisor_______________________________

Please take this opportunity to evaluate your placement. You are encouraged to share this with your supervisor.

Please evaluate the following:

1. Opportunity to apply formal learning.

2. Opportunity to interact with supervisor.

3. Agency’s strengths. Please list:

4. Recommendations for improvement

_____________________________________
Student

____________________
Date