

**COURSE FAB2160: CUSTOM FABRICATION****Level:** Intermediate**Theme:** Production Systems and Processes**Prerequisite:** FAB1010 Fabrication Tools & Materials**Description:** Students work independently, or in a cooperative learning environment, to plan and construct a product/structure that meets a specific client's needs.**Parameters:** Access to fabrication facilities and equipment, and to instruction from an individual with trade qualifications if students are involved in customer work related to welding and other trade-related activities.**Supporting Course:** FAB1160 Production Systems**Curriculum and Assessment Standards**

| General Outcomes   | Assessment Criteria and Conditions  | Suggested Emphasis            |
|--|---|-------------------------------|
| <p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>demonstrate appropriate communicating and planning skills</li> <li>demonstrate effective resource management skills and practices</li> <li>demonstrate custom fabrication competencies</li> </ul> | <p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>observed communication with a client that includes: <ul style="list-style-type: none"> <li>methods used to determine the customer needs</li> <li>a design proposal and approval</li> <li>cost and time estimate</li> <li>contract terms</li> </ul> </li> <li>applied resource management skills used to access and deploy human and material resources</li> <li>successful fabrication of a custom product that fulfills the conditions of the contract.</li> </ul> <p><i>Assessment Tool</i><br/> <i>Product Assessment: Custom Work, FAB2160-1</i></p> <p><i>Standard</i><br/> <i>Performance rating of 2 for each applicable task</i></p> | <p>25</p> <p>25</p> <p>50</p> |
| <ul style="list-style-type: none"> <li>demonstrate basic competencies.</li> </ul>  | <ul style="list-style-type: none"> <li>observations of individual effort and interpersonal interaction during the learning process.</li> </ul> <p><i>Assessment Tool</i><br/> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>  | <p>Integrated throughout</p>  |

**COURSE FAB2160: CUSTOM FABRICATION (continued)**

| Concept  | Specific Outcomes   | Notes   |
|--|---|---|
| <p>Orientation</p> <ul style="list-style-type: none"> <li>• Custom Manufacturing</li> <li>• Client Needs</li> <li>• Management Skills</li> </ul>       | <p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• describe the advantages and disadvantages of custom production</li> <li>• list the steps to follow in determining a customer's needs</li> <li>• identify and describe key management elements, such as:               <ul style="list-style-type: none"> <li>– organizing</li> <li>– designing</li> <li>– producing</li> <li>– controlling.</li> </ul> </li> </ul>   | <p>Encourage students to work with a client to determine his or her product needs, develop a proposal and complete a project to satisfy the customer rather than simply build a project for themselves.</p> |
| <p>Planning and Management</p> <ul style="list-style-type: none"> <li>• Customer Interface</li> <li>• Construction and Fabrication Planning</li> </ul> | <ul style="list-style-type: none"> <li>• identify the product/structure specifications through consultation with the customer</li> <li>• create a suitable design, timeline and budget by working collaboratively with the customer</li> <li>• explain to the customer any need to make changes</li> <li>• change orders as the customer sees necessary</li> <li>• complete a customer satisfaction follow-up</li> <li>• identify the types and properties of the materials to be used</li> <li>• explain whether any specialized equipment will be needed to complete the task</li> <li>• evaluate the need to construct special jigs or fixtures</li> <li>• describe any unique finishing and installation requirements.</li> </ul> |   |

**COURSE FAB2160: CUSTOM FABRICATION (continued)**

| Concept   | Specific Outcomes  | Notes |
|---|--|-------|
| <ul style="list-style-type: none"> <li>• Cooperative Work Strategies</li> </ul>                               | <p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• explain the need to:               <ul style="list-style-type: none"> <li>– identify group and individual responsibilities</li> <li>– identify and capitalize on individual strengths</li> <li>– participate in group as well as self-evaluative processes</li> <li>– develop strategies for positive criticism.</li> </ul> </li> </ul> |       |
| <p>Implementation</p> <ul style="list-style-type: none"> <li>• Construction and Fabrication</li> </ul>        | <ul style="list-style-type: none"> <li>• complete responsibilities to:               <ul style="list-style-type: none"> <li>– break out materials according to a prearranged plan</li> <li>– process materials with a minimum number of set ups</li> <li>– assemble, finish and prepare the product/ structure for delivery or installation.</li> </ul> </li> </ul>  |       |
| <p>Assessment</p> <ul style="list-style-type: none"> <li>• Follow-up</li> <li>• Career Preparation</li> </ul> | <ul style="list-style-type: none"> <li>• research ways to determine customer satisfaction</li> <li>• identify future service requirements</li> <li>• explain a method for gaining new leads</li> <li>• prepare a record of completed activities within a portfolio.</li> </ul>   |       |

