

COURSE FAB3040: SPECIALIZED WELDING**Level:** Advanced**Theme:** Fabrication Processes**Prerequisite:** FAB2030 Oxyfuel Welding**Description:** Students develop specific skills associated with advanced welding techniques to join and repair metals other than low carbon steel.**Parameters:** Access to a welding facility complete with advanced level welding equipment and supplies and to instruction from an individual with welding trade qualifications.**Supporting Courses:** FAB3030 Gas Tungsten Arc Welding
FAB3050 Arc Welding 3
FAB3170 Gas Metal Arc Welding 2**Curriculum and Assessment Standards**

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<i>The student will:</i>	<i>Assessment of student achievement should be based on:</i>	
<ul style="list-style-type: none"> list health and safety specific hazards associated with welding metals other than low carbon steels, and take preventive measures to avoid accidents and personal injury to self and others 	<ul style="list-style-type: none"> identification of the hazards associated with welding metals containing zinc, cadmium, lead, tin and chromium 	10
<ul style="list-style-type: none"> describe the unique welding characteristics of weldable metals other than low carbon steel 	<ul style="list-style-type: none"> a description of the characteristics and methods of welding aluminium, stainless steel and cast iron 	20
<ul style="list-style-type: none"> select appropriate filler material and welding process to weld a metal other than low carbon steel 	<ul style="list-style-type: none"> performing a given weld on any one or more of the following materials: <ul style="list-style-type: none"> – aluminium – stainless steel – cast iron. <p><i>Assessment Tool</i> <i>Assessment Framework: Fabrication Process, FABPRS</i></p> <p><i>Standard</i> <i>Performance rating of 3 for each applicable task</i></p>	70

COURSE FAB3040: SPECIALIZED WELDING (continued)

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> observations of individual effort and interpersonal interaction during the learning process. <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>Integrated throughout</p>

Concept	Specific Outcomes	Notes
<p>Orientation</p> <ul style="list-style-type: none"> Health and Safety Welding Parameters 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> describe the health hazards connected with welding metals containing zinc, cadmium, lead, tin and chromium describe a safety plan in case of accident research and describe the unique welding characteristics of: <ul style="list-style-type: none"> stainless steel cast iron aluminium white metal (zinc die cast metal). 	<p>Explain why it is often difficult to weld these materials.</p>
<p>Planning and Management</p>	<ul style="list-style-type: none"> identify a suitable filler metal and flux to join or repair: <ul style="list-style-type: none"> stainless steel cast iron aluminium white metal identify the appropriate joint preparation, supports and techniques for a given metal. 	
<p>Implementation</p> <ul style="list-style-type: none"> Welding Process 	<ul style="list-style-type: none"> perform a weld or repair on one or more metals other than a low carbon steel. 	

COURSE FAB3040: SPECIALIZED WELDING (continued)

Concept	Specific Outcomes	Notes
Assessment <ul style="list-style-type: none"><li data-bbox="207 449 443 478">• Quality Control<li data-bbox="207 569 391 632">• Career Preparation	<i>The student should:</i> <ul style="list-style-type: none"><li data-bbox="488 449 1092 548">• complete a visual inspection by considering the overall appearance, size and shape of the beads and degree of penetration<li data-bbox="488 569 1105 632">• prepare a record of completed activities within a portfolio.	

