

# Mechanical Engineering

**Curriculum Goals:**

To provide the student with the opportunity to explore and experience the work of a mechanical engineer exposing them to the varied opportunities in mechanical engineering and to assist them in making an informed decision for further study and/or employment. This course is practical and experiential. The student will be given the opportunity to learn through engaging in realistic and authentic tasks.

**Vocational Pathway:** Manufacturing and Technology

**Learner Goals and Outcomes:** On completion of this course, the student will be able to:

1. Demonstrate knowledge of safety on engineering worksites.
2. Use a MIG welding plant in the automotive industry.
3. Demonstrate knowledge of fabrication machinery, materials, and processes.
4. Assemble mechanical components under supervision.
5. Produce simple engineering component drawings using CAD software.
6. Create three-dimensional engineering models using CAD software under supervision.

**Unit Standards**

Unit No	Title	Level	Credits	Version	SR/R
2387	Assemble mechanical components under supervision	2	2	7	SR
21684	Use a MIG welding plant in the automotive industry	3	3	3	
21911	Demonstrate knowledge of safety on engineering worksites	2	2	3	SR
29670	Demonstrate knowledge of fabrication machinery, materials, and processes	2	3	1	SR
2433	Produce simple engineering component drawings using CAD software.	2	6	8	R
2436	Create three-dimensional engineering models using CAD software under supervision	3	5	8	
	<b>Total DAS Credits</b>		<b>21</b>		

**Vocational Pathways:** SR = Sector Related; R = recommended

To receive a Vocational Pathways Award, students must gain NCEA Level 2. Within the 80 credits required to achieve NCEA Level 2, 60 of these Level 2 credits must be from the recommended standards in one or more pathways, including 20 Level 2 credits from sector related standards.

**Methods of Assessment:** Four forms of assessment will be used:

1. Written assessment
2. Practical activities and observations
3. Practical demonstrations
4. Group project