Erindale College

UNIT OUTLINE

Metal Technology 1
Introduction to Metal Technology
Technology and Creative Arts

SEMESTER 1 2019

Course Title	METAL TECHNOLOGY	Course Value	Course Code	8179
Unit Title	Introduction to Metal Technology	1.0	**Unit Code**	**32557**
Term 1 Unit	Metal Hand and Power Tools	0.5	**Unit Code**	**82558**
Term 2 Unit	General metal Machining	0.5	**Unit Code**	**82559**

GOALS

This unit should enable students to:

- Explain the need for industrial housekeeping and orderly work practices
- Work in a safe and productive routine in the metal workshop environment
- Identify hand and power tools and safety equipment
- Correctly select and operate hand tools
- develop skills and proficiency in the use of basic hand and power tools
- Complete tasks through the interpretation of information from workshop engineering drawings
- Develop basic skills in general machining and fitting
- Apply basic drawing/sketching skills
- Apply a problem solving design approach to project work
- Produce design solutions in response to a brief in preparation for the production of a self-directed major project
- Environmentally sustainable work practices

CONTENT SUMMARY

Principles of Industrial Housekeeping

- Maintaining cleanliness, tidiness and use of safety signage and markings in the mechanical engineering workplace – for example personal hygiene, clean and orderly workplace, storage of equipment and materials, disposal of waste materials, signage (eg machinery, operational, substances), markings (eg walkways, vehicular areas, storage, work areas)

Principles of Personal Safety

- Identification of personal hazards – such as chemical, biological, physical, ergonomic and psychological – the likely health effects and personal safety recommendations applicable to the mechanical engineering environment

Hand Tools

- Appropriate hand tools selected according to the task requirements – eg measuring, marking out, cutting, filing, threading, bending etc.
- Hand tools used correctly to produce desired outcomes to job specifications that may include size, shape, tolerance and finish.
- All safety requirements are adhered to before, during and after use
- Hand tools are stored safely and orderly in appropriate location
- Appropriate measuring and marking out tools selected for task at hand

- Marking out techniques to enable desired outcomes of job specifications – may include datum lines and surfaces, outlines and centre lines

Machining

- Simple marking out techniques used and machining parameters set for job requirements and maximum tool life
- Work correctly held or clamped without damage to product and all safety requirements met
- Machining performed in a safe manner utilising all guards, safety procedures and personal protective clothing and equipment
- Set up machines correctly and use machine cutting tools efficiently

Power Tools

- Appropriate power tools selected according to the task requirements – eg drilling, cutting, grinding.
- Correct technique understood before commencing work with any power tool
- Power tools used following a determined sequence of operations that may include clamping, alignment and adjustment to produce desired outcomes to job specifications and may include finish, size or shape
- All safety requirements are adhered to before, during and after use
- Power tools stored safely in appropriate location and in an orderly manner.

Design Drawing Interpretation

- Identifying and interpreting information to enable job specifications to be met, identify drawing views and datum, read dimensions.

Design Process

- Introduction to a basic design process commonly employed in an engineering workshop environment
- apply basic drawing/sketching skills

Environmentally sustainable work practices

- Introduction to using environmentally sustainable work practices in an engineering workshop environment

COST OF MATERIALS

There is a cost associated with this unit of study of $30.00. This covers the cost of materials used by students including supply and laundering of protective clothing, abrasives, replacement tools, special tools and industrial hand cleaner**.**

ASSESSMENT

TASK	DUE DATE	WEIGHTING
Practical Project 1	Progress check in week 5 with a final mark in Week 9	30%
Design Folio 1	Progress check in week 5 with a final mark in Week 9	20%
Theory Test	Week 12	10%
Practical Project 2	Progress check in week 13 with a final mark in Week 17	30%
Design Folio 2	Progress check in week 13 with a final mark in Week 17	10%

SPECIFIC ENTRY & EXIT REQUIREMENTS FOR TERM UNITS

To exit at Term 1 you must complete the Practical Project 1 and Design Folio 1 by week 9. Entry into this course for Term 2 is by negotiation with the Executive teacher.

ATTENDANCE AND PARTICIPATION

Students are expected to submit all assessment items and attend all classes, participate in a positive manner and seek support whenever it is required. Excursions, simulations and presentations by visitors (including lunchtime) may form part of classwork. It is your responsibility to catch up on missed work when absent from class.

Any student whose attendance falls below the 90% of the scheduled classes/contact time and has not provided substantial documentary evidence to cover the absence will be awarded a V grade. This means that 4 unexplained absences in a term or 8 unexplained absences in a semester could mean that a V grade may be awarded. However, the Principal has the right to exercise discretion in special circumstances if satisfactory documentation is supplied.

LATE SUBMISSION OF WORK

Students are encouraged to submit work on time, as it is a valuable organisational skill. Students are also encouraged to complete work even if it is late, as there are educational benefits in doing so.

Late work will receive a penalty of 5% (of possible marks) per calendar day late, unless an extension is granted by the class teacher prior to the deadline. This means that 5% is taken off the possible marks that could have been achieved eg. If a student achieved a score of 75/100, and the item is one day late, then five marks (5% of 100) would be taken from 75, which leaves the score as 70/100. 'Per calendar day late' means each day late whether it be a weekend or public holiday. Items due on any date must be submitted to the class teacher, faculty staff room, or front office at the college by 3.30pm on that day. After 3.30pm, the item will attract the late penalty. Submission of work on a weekend or public holiday is not acceptable. If you do not submit your work to your class teacher, make sure that it is signed and dated by either another member of staff in the faculty staffroom, or a member of the front office staff.
Achievement in Accredited Courses is reported to the Board of Senior Secondary Studies and students with a Grade A-E. Late work submitted without approval will have an impact on the grade awarded to a student.

No work will be accepted after marked work has been returned, or accepted after the unit has completed. Computer and/or printer failure will not be accepted as a valid reason for late work. Make sure you backup, keep hard copies and rough notes.
Unless prior approval is granted, any student who fails to submit assessment tasks worth in total 70% or more of the assessment for the unit will be considered to be unassessable and will receive a V grade. The Principal has the right to exercise discretion in the application of the late penalty in special circumstances where satisfactory documentation is supplied.

ASSESSMENT CRITERIA FOR ASSESSMENT AND REPORTING OF STUDENT ACHIEVEMENT

The following assessment criteria are a focus for assessment and reporting in this unit. Criteria are the essential qualities that teachers look for in student work. These Criteria must be used by teachers to assess students' performance, however not all of them need to be used each task. Assessment criteria are to be holistically on a given task and in determining unit grades.

Students will be assessed on the degree to which they demonstrate:

- industry specific skills
- understanding and application of knowledge
- understanding and use of Occupation Health and Safety procedures
- communication skills

Teachers will consider, when allocating grades, the degree to which students demonstrate their ability to complete and submit tasks within a specified time frame.

UNIT GRADES

Unit Grade Descriptors

	*A student who achieves an **A** grade typically*	*A student who achieves a **B** grade typically*	*A student who achieves a **C** grade typically*	*A student who achieves a **D** grade typically*	*A student who achieves an **E** grade typically*
Industry specific skills	• Proficiently and effectively performs all technical skills to a very high standard • Demonstrates excellent time management skills	• Effectively performs technical skills to a high standard. • Demonstrates good time management skills	• Performs technical skills to a satisfactory standard • Demonstrates adequate time management skills	• Performs some technical skills to a satisfactory standard • Demonstrates some time management skills	• Performs some basic skills • Demonstrates very few time management skills
Understanding and application of knowledge	• Demonstrates a thorough understanding and knowledge of workplace best practice and all key concepts	• Demonstrates a good understanding and knowledge of workplace best practice and key concepts	• Demonstrates an understanding and knowledge of workplace best practice and some key concepts	• Demonstrates limited understanding and knowledge of workplace best practice	• Demonstrates very limited understanding and knowledge of workplace best practice
	• Effectively applies the knowledge throughout the unit	• Mostly applies the knowledge throughout the unit	• Satisfactorily applies the knowledge throughout the unit	• Sometimes applies the knowledge throughout the unit	
Understanding and use of WHS procedures	• Applies injury prevention management strategies and consistently identifies risks • Consistently demonstrates WHS practices	• Applies injury prevention management strategies and sometimes identifies risks • Consistently demonstrates WHS practices	• Applies injury prevention management strategies Demonstrates WHS practices	• Usually demonstrates WHS practices	• May require support to demonstrate WHS practices
Communication Skills	• Consistently demonstrates knowledge and understanding clearly and accurately through various communication forms (e.g. written, oral, visual)	• Demonstrates knowledge and understanding clearly and accurately through various communication forms (e.g. written, oral, visual)	• Demonstrates knowledge and understanding satisfactorily through various communication forms (e.g. written, oral, visual)	• Demonstrates limited knowledge and understanding through some communication forms (e.g. written, oral, visual)	• Demonstrates very limited knowledge and understanding through few communication forms (e.g. written, oral, visual)

CHEATING AND DISHONEST PRACTICE

The integrity of the College's assessment system relies upon all involved acting in accordance with the highest standards of honesty and fairness. Any departure from such standards will be viewed very seriously." Accordingly:

- Plagiarism - claiming authorship of someone else's work (intentionally or otherwise) - is a serious misdemeanour, and attracts severe penalties.
- Students are required to acknowledge the source of all material that is incorporated into their own work.
- Students may not submit the same item for assessment in more than one unit, unless specific agreement has been reached with the class teacher.

MODERATION

Throughout the semester, moderation in the form of common marking schemes, cross marking and joint marking occurs across all units in the Moderation Group to ensure comparability of standards. Moderation is a process whereby student's work is compared so that student performance can be graded fairly and consistently. Moderation takes some time, and so students may not receive their work back until ACT wide moderation of grades across all colleges has occurred. Small Group Moderation is carried out in courses with small class sizes.

RIGHT TO APPEAL

You can appeal against your assessment if you feel that the result you obtained is not fair. You should first talk to your class teacher, and if you are not satisfied with the explanation you must discuss the situation with the Executive Teacher of the Academy concerned. If you still do not feel that your result is fair you should talk to the Deputy Principal for further advice on the appeals process.

Executive Teacher: Clint Codey

Class Teacher: Dirk Wilkens

Date: January 27, 2019