

TEAC 2069 SECONDARY METAL TECHNOLOGY 1

Credit Points 10

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Description This subject provides an essential foundation in metal technologies specifically designed for future educators teaching the NSW Stage 4/5 (Years 7-10) Industrial Technology syllabuses. Students will engage in hands-on learning experiences that develop skills in the use of hand tools and basic power tools, alongside simple joining methods through practical projects. The subject encompasses an exploration of metal properties, an introduction to basic project design, and a strong emphasis on safe work practices. By the end of the subject, students will be well-equipped with the technical skills necessary for junior metal technology in secondary school settings.

School Education

Discipline Teacher Education: Secondary

Student Contribution Band

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 2 subject

Pre-requisite(s) BLDG 1007

Restrictions

Students must be enrolled in 1939 Bachelor of Education (Secondary).

Learning Outcomes

After successful completion of this subject, students will be able to:

1. Describe and compare a range of metals and alloys and their properties
2. Apply safe and effective techniques in the use of basic metalworking hand tools and equipment
3. Demonstrate fundamental metal joining techniques in the creation of simple projects
4. Implement basic design processes for the planning and production of metal projects
5. Employ safety regulations and risk management in metal workshop settings.
6. Evaluate environmental and social impacts in the selection and use of metals, and make recommendations for sustainable practices.

Subject Content

1. Introduction to metalwork: properties and types of metals and alloys relevant to Years 7-10 projects
2. Safe use and maintenance of basic metalworking hand tools (e.g., files, hacksaws) and power tools (e.g., drill press, angle grinder)
3. Fundamental metal joining techniques eg. riveting, brazing, and basic MIG welding
4. Basic metal fabrication processes: measuring, marking out, cutting, drilling, and bending
5. Introduction to metal finishing methods suitable for Years 7-10 e.g. filing, sanding, and basic painting
6. Project design and planning aligned with 7-10 syllabus: interpreting plans, material selection, and basic costing

7. Workshop safety: regulations, personal protective equipment, and risk management for Years 7-10

8. Sustainability in metal technology: material selection, waste reduction, and recycling considerations

9. Introduction to computer-aided design for simple metal projects: basic 2D drawings and project visualization