INDUSTRIAL TECHNOLOGY- ELECTRONICS OUTLINE AND ASSESSMENT GUIDE

Contents	Areas of Assessment	Description of Assessment Task
Specialised modules develop knowledge and skills in the use of materials, tools and techniques related to electronics which are enhanced and further developed through the study of modules in: • Circuits and components • Computer repair and construction **Module Components** • WHS and risk management • Materials and components • Equipment, tools and machines • Techniques • Links to industry • Design • Workplace communication skills • Societal and environmental impact • Additional content **Projects** Practical projects will reflect the nature of the electronics focus area and provide opportunities for students to produce quality project using electronics related technologies. These may include: • Electronic circuits and kits • Electronic controlled devices • Robotic projects • Computer systems • Work undertaken on isolated computer components	**Task 1** • analyse the impact of power transmission on society and the environment • identify new and emerging technologies and contrast with those used in the past • selects and uses appropriate written, oral and graphic forms to communicate technical / electronic data and information **Task 2 and 4** • independently and consistently apply principles of design in the design and/or modification of electronic projects • use software to develop PCB pattern design and produce PCBs using etchants and photo-etching • select and use a range of hand and machine tools and test equipment in the production of practical projects • use testing and measuring equipment to diagnose and rectify faults in circuits • identify and respond to OHS issues to help ensure a safe working environment **Task 3 and 5** • identify and describe the function of specific electronic components • explain and justify choice of materials, components, processes and equipment • recall specialist terms and units • calculate voltage, current, resistance and capacitance in electronic circuits	**Task 1: Term 1, Week 7** **10%** Research report on the impact of power transmission on society and the environment. **Task 2: Term 2, Week 2** **30%** Practical Project – Design and construct an electronic dice or roulette wheel. PCB layout, project and folio. **Task 3: Term 2, Week 3** **10%** Class Test on related theory. **Task 4: Term 4, Week 4** **30%** Practical Project – Design and construct a stereo amplifier. PCB layout, project and folio. **Task 5: Term 4, Week 4** **20%** Final Examination

Stage 5 Course Performance Descriptors – Industrial Technology - Electronics

Areas for Assessment

OHS and risk management
Properties and applications of materials
Industrial Technology and society
Designing, communicating and evaluating
Producing quality projects

Grade E	Grade D	Grade C	Grade B	Grade A
A student performing at this grade typically:	***A student performing at this grade typically:***	***A student performing at this grade typically:***	***A student performing at this grade typically:***	***A student performing at this grade typically:***
• demonstrates elementary knowledge of some technologies in their field of study, and recognises some social, cultural and environmental impacts of these technologies.	• demonstrates basic knowledge of technologies in their field of study, and outlines social, cultural and environmental impacts of these technologies.	• demonstrates sound knowledge of traditional, current, new and emerging technologies in their field of study, and explains the social, cultural and environmental impacts of these technologies.	• demonstrates thorough knowledge of traditional, current, new and emerging technologies in their field of study, and analyses the social, cultural and environmental impacts of these technologies.	• demonstrates extensive knowledge of traditional, current, new and emerging technologies in their field of study, and evaluates the social, cultural and environmental impacts of these technologies.
• with guidance, displays very limited technical skills in identifying and using appropriate materials and hand and machine tools to produce practical projects.	• displays basic technical skills in identifying and using appropriate materials and hand and machine tools to produce practical projects, identifying and managing some risks, and applying safe work practices.	• displays technical skills in identifying and using appropriate materials and hand and machine tools, to produce practical projects of sound quality, identifying and managing risks and applying safe work practices.	• displays high-level technical skills in identifying and using appropriate materials and hand and machine tools to produce high quality practical projects, assessing and managing risks and applying safe work practices.	• displays advanced technical skills in identifying and using appropriate materials and hand and machine tools to produce practical projects of excellent quality, independently assessing and managing risks and consistently applying safe work practices.
• identifies some properties of materials that make them suitable for specific applications, and identifies some aspects of products and commercial products.	• outlines properties of materials that make them suitable for specific applications, and identifies functional, aesthetic, environmental and economic aspects of products and commercial products.	• describes the suitability of materials for specific applications, and the functional, aesthetic, environmental and economic aspects of projects and commercial products.	• analyses the suitability of materials for specific applications, and the functional, aesthetic, environmental and economic aspects of projects and commercial products.	• evaluates the suitability of materials for specific applications and the functional, aesthetic, environmental and economic aspects of projects and commercial products.
• produces elementary sketches related to practical projects, and uses simple terms to describe production processes.	• produces simple drawings for practical projects, and uses general terms to describe production processes to an audience.	• produces competent drawings to illustrate practical projects, and uses accurate technical terms to describe production processes to a range of audiences.	• uses a range of media to illustrate practical projects, and uses technical terminology to discuss production processes with a range of audiences.	• independently selects and uses a range of media to illustrate practical projects, and confidently uses technical terminology to discuss production processes with a range of audiences.
• with assistance, applies elementary skills and design principles to the production or modification of projects.	• applies basic skills and design principles to the development and production or modification of projects.	• applies skills and design principles to the development and production or modification of projects.	• consistently applies skills and design principles to the development and production of new projects.	• independently and consistently applies skills and design principles to the development and production of new projects.