

Subject Selection Year 10 – Technologies

DIGITAL TECHNOLOGIES

10 COMPUTER GENERATED IMAGERY (CODE 10CGA)

PREREQUISITE: Year 9 Computer Animation and Multi Media

Students will develop digital technology skills to design computer generated imagery, build animations using 3D modelling and rendering techniques, apply special effects to digital video and use the latest movie industry standard software including After Effects, Premiere, Studio 3DS MAX and MAYA.

Students will:

- Develop skills and techniques in digital capture, manipulation, 3D modelling, computer generated animations (CGA) and computer generated imagery (CGI)
- Investigate, design, produce and evaluate CGA and CGI solutions
- Understand hardware and software systems used in CGA and CGI.

10 COMPUTER PROGRAMMING (CODE 10COM)

Students develop and apply skills in computer control and programming. Various programming languages are used to produce simple computer games, applications and simulations.

Students will develop IT skills in programming and structured programming techniques; investigating, designing, producing and evaluating solutions to computer control and programming problems; understanding of hardware and software systems used in computer control and programming; understanding of different and relevant data types and data structures; societal and environmental issues.

DESIGN AND TECHNOLOGIES

Year 10	Possible Senior School Subject
Industrial Systems*	General Automotive Engineering and Technology
Metals Technology*	General Design Metals
Wood Technology*	General Design Wood

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Technical Graphics*	General Design Technical Graphics
Childcare*	General Children, Family and Community
Special Occasion Catering*	Certificate II Hospitality

*extra cost subject

10 INDUSTRIAL SYSTEMS*

(CODE 10IND)

DESIRABLE PREREQUISITE: Year 9 Industrial Systems

This subject is available to all students and follows on from Industrial Systems Year 9. Students will further develop skills in an extended range of industrial processes. The key outcomes of working in groups, problem solving and investigation /analysis are reinforced in this subject.

Students undertake practical and theory tasks in the key industrial systems areas of:

- Mechanics
- Welding
- Pneumatics and hydraulics
- Control and building
- Electronics.

10 METALS *

(CODE 10MET)

DESIRABLE PREREQUISITE: Year 9 Metals

Students develop skills in the use of hand and power tools, read workshop drawings (with the added emphasis on design), and make and appraise related skills.

The principle concepts for this subject are:

- Personal and general workshop safety
- Safe and correct use of hand, power tools and machines
- Utilise the design process to solve some complex problems
- Maintain a safe and effective workshop environment
- Independent learning.

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10 WOOD*

(CODE 10WD)

DESIRABLE PREREQUISITE: Year 9 Wood

This subject allows students to broaden their knowledge, skills and processes, refining skills in the areas of design, problem solving and machine operations.

This subject provides students with the opportunity to:

- Develop expertise in the safe use of hand and power tools
- Learn new skills, processes and construction techniques
- Reinforce and further develop safety routines and procedures
- Use problem-solving strategies through the Design Process
- Independent learning.

10 TECHNICAL GRAPHICS

(CODE 10TGR)

This course allows students to broaden their knowledge, skills, graphic communication and improve their computer skills.

This course provides students with the opportunity to:

- Further develop and consolidate computer literacy
- Implement problem solving skills
- Improve communication skills and knowledge of computer assisted drawing programmes
- Provide a sound knowledge base of Senior School Design, context: Technical Graphics).

10 ENGINEERING AND ROBOTICS

(CODE 10ROB)

PREREQUISITE: Year 9 Robotics*

Engineering and Robotics will cover in more depth the engineering components of robotic devices including electrical, electronic and mechanical using CAD (AutoDesk Inventor) and 3D printing systems, and the study of dynamic and kinematic movement. It will provide opportunity for students to learn at a higher level how to give “intelligence” to autonomous robotic devices by using problem solving techniques, computer programming and coding.

Students will put knowledge into practice by using simulation software in the design and development process and by working in teams to prototype using 3D modelling software and 3D printers, design, build and program advanced robotic devices to accomplish set tasks.

10 CHILDCARE*

(CODE 10CC)

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If you are interested in working with children, or if you simply enjoy spending time with children, then this subject is for you!

This subject will cover key aspects related to:

- Growth and development
- Learn through play
- Create a positive environment for children
- Introduction to the *Real Care Baby Program* – virtual baby
- Have contact with children
- Be involved in practical activities.

Work covered will involve both practical and theoretical activities. Students will be assessed in the Materials and Technology Process outcomes.

10 SPECIAL OCCASION CATERING*

(CODE10SOC)

Special Occasion Catering is a fun and interesting subject which studies four main areas Sharing Food with Friends; Cafe Foods; International Foods; and Cake Decorating.

- Meal planning
- Prepare entree, main and dessert
- Prepare foods from countries all over the world
- Investigate foods for special occasions
- Design and make a Christmas cake
- Produce foods suitable for a café.