



# **Southern Cross Catholic College**

## **Subject Selection Evening**

### **Technologies**

# Technologies General Subjects

## Design

The Design subject focuses on the application of design thinking to envisage creative products, services and environments in response to human needs, wants and opportunities. Designing is a complex and sophisticated form of problem-solving that uses divergent and convergent thinking strategies that can be practised and improved. Designers are separated from the constraints of production processes to allow them to appreciate and exploit innovative ideas.

## Engineering

The problem-solving process in Engineering involves the practical application of science, technology, engineering and mathematics (STEM) knowledge to develop sustainable products, processes and services. Engineers use their technical and social knowledge to solve problems in ways that meet the needs of today's individuals, communities, businesses and environments, without compromising the potential needs of future generations. Students who study Engineering develop technical knowledge and problem-solving skills that enable them to respond to and manage ongoing technological and societal change.

### Pathways

Design is a General subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Design can establish a basis for further education and employment in the fields of architecture, digital media design, fashion design, graphic design, industrial design, interior design and landscape architecture.

### Pathways

Engineering is a General subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in Engineering can establish a basis for further education and employment in the field of engineering, including, but not limited to, civil, mechanical, mechatronic, electrical, aerospace, mining, process, chemical, marine, biomedical, telecommunications, environmental, micro-nano and systems. The study of engineering will also benefit students wishing to pursue post-school tertiary pathways that lead to careers in architecture, project management, aviation, surveying and spatial sciences.

### Units of Study

#### Unit 1

Design in practice

#### Unit 2

Commercial design

#### Unit 3

Human-centred design

#### Unit 4

Sustainable design.

### Units of Study

#### Unit 1

Engineering fundamentals and society

#### Unit 2

Emerging technologies

#### Unit 3

Statics of structures and environmental considerations

#### Unit 4

Unit 4 Machines and mechanisms



## Food & Nutrition

Food & Nutrition is the study of food in the context of food science, nutrition and food technologies. Students explore the chemical and functional properties of nutrients to create food solutions that maintain the beneficial nutritive values. This knowledge is fundamental for continued development of a safe and sustainable food system that can produce high quality, nutritious solutions with an extended shelf life. The food system includes the sectors of production, processing, distribution, consumption, research and development. Waste management, sustainability and food protection are overarching principles that have an impact on all sectors of the food system. Students will actively engage in a food and nutrition problem-solving process to create food solutions that contribute positively to preferred personal, social, ethical, economic, environmental, legal, sustainable and technological futures.

### Pathways

Food & Nutrition is a General subject suited to students who are interested in pathways beyond school that lead to further education, training and employment. A course of study in Food & Nutrition can establish a basis for further education and employment in the fields of science, technology, engineering and health.

### Units of Study

#### Unit 1

Food science of vitamins, minerals and protein

#### Unit 2

Food drivers and emerging trends

#### Unit 3

Food science of carbohydrate and fat

#### Unit 4

Food solution development for nutrition consumer markets



# Technologies Applied Subject

## Information & Communication Technology

Across business, industry, government, education and leisure sectors, rapidly changing ICT practices and protocols create corresponding vocational opportunities. To enable students to take advantage of these opportunities, this subject area will equip them with knowledge of current and emerging hardware and software combinations, an understanding of how to apply them in real-world contexts and the skills to use them to solve technical and/or creative problems. Students will develop knowledge, understanding and skills across multiple platforms and operating systems, and will be ethical and responsible users and advocates of ICT, aware of the social, environmental and legal impacts of their actions.

### Pathways

A course of study in Information and Communication Technology can establish a basis for further education and employment in many fields especially the fields of ICT operations, help desk, sales support, digital media support, office administration, records and data management, and call centres.

### Course of Study in ICT

