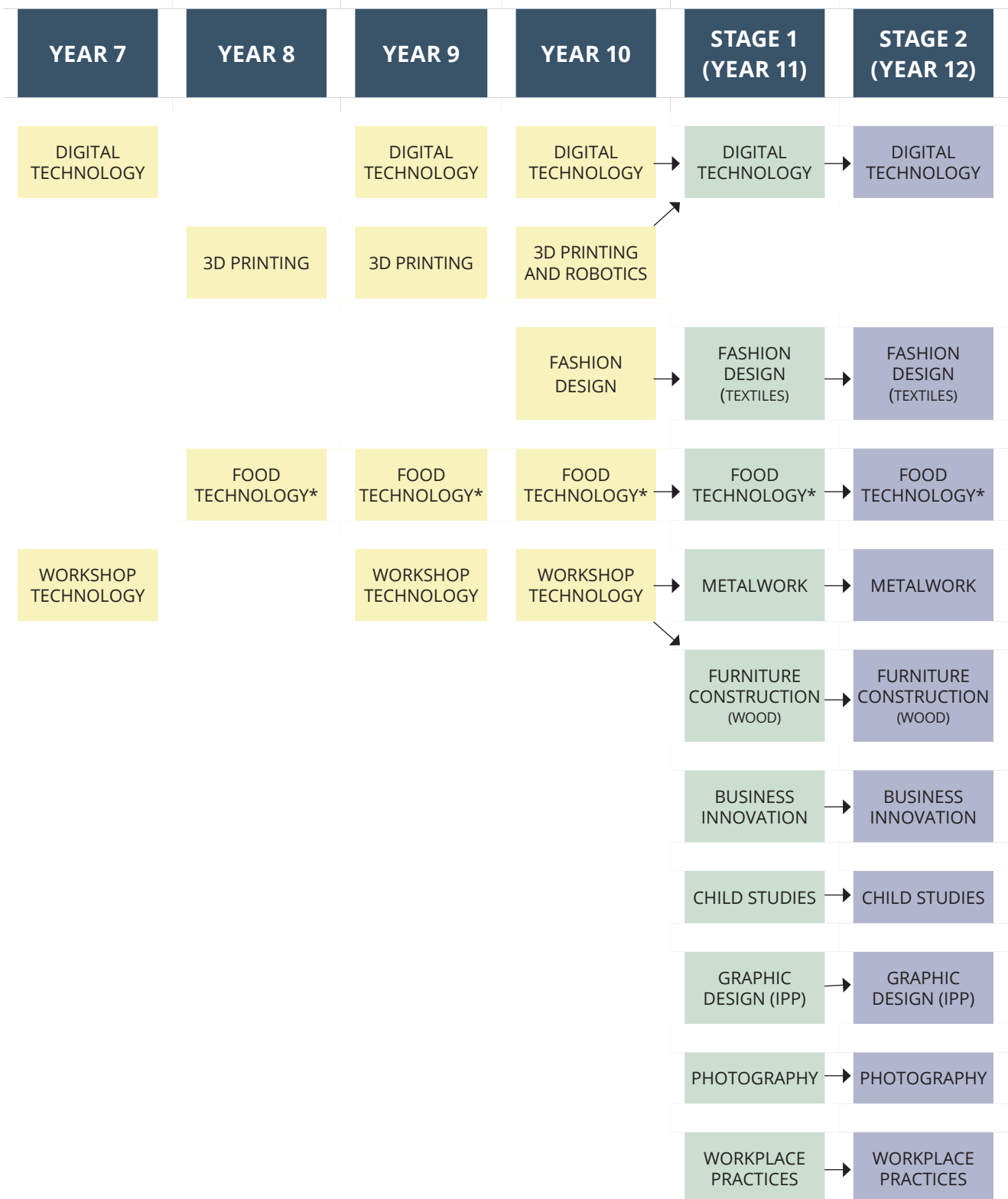




DESIGN AND TECHNOLOGY

For more information please contact
Ashleigh Kelly
Director of Curriculum and Learning The Arts, Design and Technology
ashleigh.kelly670@schools.sa.edu.au

DESIGN AND TECHNOLOGY



*ALL FOOD TECHNOLOGY CLASSES AND PRACTICALS ARE HALAL

DESIGN AND TECHNOLOGY

DIGITAL TECHNOLOGY YEAR 7

LEVEL Year 7

LENGTH 1 term

CONTENT

Students will be introduced to a variety of software and tools to further develop their understanding of computational thinking. Students will learn basic coding skills and techniques to implement their ideas using appropriate software. Students will learn how to incorporate digital effects and understand the impact of visual elements when designing for a specific target audience. Projects involve a large design and planning aspects and will help students develop their logical and algorithmic thinking skills. Students will learn about the design process and how to develop and refine their ideas.

They will continually evaluate their work and that of their peers to make refinements and reflect upon the strengths and limitations of their products. for a wide range of machines, hand tools and processes including sheet metal construction and welding and lathe work.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

WORKSHOP TECHNOLOGY YEAR 7

LEVEL Year 7

LENGTH 1 term

CONTENT

Students are introduced to the design cycle of investigate, design, make and evaluate. Students will have the opportunity to use appropriate techniques and equipment to create a range of products from timber and/or metal and manufactured board within design parameters by responding to a design brief. Students will explore the range of materials that are available within a modern timber and metal workshop. Students will develop their knowledge of Safe Operating Procedures for a wide range of machines, hand tools and processes including sheet metal construction and welding and lathe work.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

3D PRINTING YEAR 8

LEVEL Year 8

LENGTH 1 term

CONTENT

Students will be introduced to a range of technological systems and will work through the design cycle to create a range of solutions, taking into consideration social and environmental factors. Students will learn to use relevant software and programs to use a range of tools such as 3D printer and laser cutter to create products that met the design brief. They will problem solve and develop solutions to real world problems or challenges, through individual and collaborate group work.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

DESIGN AND TECHNOLOGY (continued)

FOOD TECHNOLOGY YEAR 8

LEVEL Year 8

LENGTH 1 term

CONTENT

Students develop food preparation skills and techniques within a high risk setting as they learn of safety measures and good food hygiene practices. Students investigate ways to adapt existing recipes and traditional cuisines to meet modern day trends. Students develop creative food presentation and learn about the complexities involved with recipe adaptation, portion size and dietary requirements. Students will research and plan for cooking practical's that meet specific design challenges and perimeters for a brief. They will then have the opportunity to work collaboratively to use appropriate techniques and equipment during cooking practicals to create their final products.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations - Cooking Practical
- Product Evaluations

DIGITAL TECHNOLOGY YEAR 9

LEVEL Year 9

LENGTH 1 semester

CONTENT

Students will be introduced to a variety of software and tools to further develop their understanding of computational thinking. Students will learn to design and create a 2D video game involving the use of sprites, animations, variables and basic scripting of events. Students will also develop an education and interactive app designed for a specific target audience. Both these projects involve a large design and planning aspects and will help students develop their logical and algorithmic thinking skills. Students will learn about the design process and how to develop and refine their ideas. They will continually evaluate their work and that of their peers to make refinements and reflect upon the strengths and limitations of their products.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

3D PRINTING YEAR 9

LEVEL Year 9

LENGTH 1 semester

CONTENT

Students will be introduced to a range of technological systems and will work through the design cycle to create a range of solutions, taking into consideration social and environmental factors. Students will learn to use relevant software and programs to use a range of tools such as 3D printer and laser cutter to create products that met the design brief. They will problem solve and develop solutions to real world problems or challenges, through individual and collaborate group work.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

DESIGN AND TECHNOLOGY (continued)

FOOD TECHNOLOGY YEAR 9

LEVEL Year 9

LENGTH 1 semester

CONTENT

Students develop skills and understanding about the design process when creating food products to meet particular requirements of a brief. They will research cooking methods and properties of ingredients, to develop food preparation skills. Through 2 major folio tasks, students learn about the complexities involved with recipe adaptation, portion size and dietary requirements whilst investigating current world food trends. Students will use the design cycle to appropriately plan for and evaluate their final product.

IB MYP ASSESSMENT TYPES

- Design Folio
- Final Products - Cooking Practical
- Product Evaluations

WORKSHOP TECHNOLOGY YEAR 9

LEVEL Year 9

LENGTH 1 semester

CONTENT

Students use the design cycle of investigate, design, make and evaluate. Students will have the opportunity to use appropriate techniques and equipment to create a range of products from timber and/or metal and manufactured board within design parameters by responding to a design brief. Students will explore the range of materials that are available within a modern timber and metal workshop. Students will develop their knowledge of Safe Operating Procedures for a wide range of machines, hand tools and processes including sheet metal construction and welding and lathe work.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

DIGITAL TECHNOLOGY YEAR 10

LEVEL Year 10

LENGTH 1 semester

CONTENT

Students will learn how to define and deconstruct complex problems in terms of functional requirements and using iterative approaches to design and evaluate algorithms. They will be introduced to object-oriented programming concepts and modular programs. Students will learn about data and database structures that reflect the relationship of real-world data and data entities and how various database systems handle such data structures. Students evaluate how well-developed solutions, existing information systems and policies, take into account of future risks and sustainability and provide opportunities for innovation and enterprise.

IB MYP ASSESSMENT TYPES

- Folio - Design Cycle
- Design Solution
- Evaluation and Critique

DESIGN AND TECHNOLOGY (continued)

3D PRINTING & ROBOTICS YEAR 10

LEVEL Year 10

LENGTH 1 semester

CONTENT

Students will be introduced to a range of technological systems and will work through the design cycle to create a range of solutions, taking into consideration social and environmental factors. Students will learn to use relevant software and programs to use a range of tools such as 3D printer and laser cutter to create products that met the design brief. They will problem solve and develop solutions to real world problems or challenges, through individual and collaborate group work.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

FASHION DESIGN YEAR 10

LEVEL Year 10

LENGTH 1 semester

CONTENT

Students apply problem-solving skills in making appropriate design solutions to meet a brief. Students will experiment with fabrics and construction methods. Students will use the design cycle to effectively plan their product and present various ideas. They will create textile articles by developing skills using tools like sewing machines and basic sewing techniques. Students learn about the textiles and the fashion industry by exploring; fundamentals of design, emerging technologies, textile and fashion futures, history and culture, sustainability and ethics.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Product Evaluations

FOOD TECHNOLOGY YEAR 10

LEVEL Year 10

LENGTH 1 semester

CONTENT

Students develop skills and understanding about the design process when creating food products to meet particular requirements of a brief. They will research cooking methods and properties of ingredients, to develop food preparation skills. Through 2 major folio tasks, students learn about the complexities involved with recipe adaptation, portion size and dietary requirements whilst investigating current world food trends. Students will use the design cycle to appropriately plan for and evaluate their final product.

IB MYP ASSESSMENT TYPES

- Design Folio
- Final Products - Cooking Practical
- Product Evaluations

DESIGN AND TECHNOLOGY (continued)

WORKSHOP TECHNOLOGY YEAR 10

LEVEL Year 10

LENGTH 1 semester

CONTENT

Students use the design cycle to develop ideas and design solutions to meet the need of a particular brief. Students will develop skills with hand tool and using these safely, learning techniques for bending, shaping and joining metal. They will use metal working equipment including braze, fusion and mig welding, turning metal on the lathe. Students will also create products in wood using framing joints to develop assembly and finishing skills. They will learn technical joining techniques such as Mortise and Tenon, Biscuit and Dowel Joints, use Timbering machines such as Band Saw, Lathe, Router and other portable power tools. Students will evaluate the ideas of form and function for a workshop product, the limitations and sustainability of materials.

IB MYP ASSESSMENT TYPES

- Design Folio
- Product Evaluations
- Final Product

DIGITAL TECHNOLOGY YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

CONTENT

Students create practical, innovative solutions to problems of interest, through development of programming. By extracting, interpreting, and modelling real-world data sets, students identify trends to examine sustainable solutions to problems in, for example, business, industry, the environment and the community. They investigate how potential solutions are influenced by current and projected social, economic, environmental, scientific, and ethical considerations, including relevance, originality, appropriateness, and sustainability. They develop innovation coding skills to create new approaches, generating their own ideas and creating digital solutions and prototypes.

SCHOOL ASSESSMENT TYPES

- Project Skills (70%)
- Digital Solutions (30%)

FASHION DESIGN (TEXTILES) YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students develop skills related to textiles to extend their abilities to make informed decisions when constructing textile articles, such as a soft furnishing items and garments.

Students will be able to identify fabrics and their suitability for particular design solutions using commercial patterns. They will develop their practical skills with combined uses of hand stitching and sewing machine techniques. They investigate and analyse the purpose of specific garments, cost, form and function, materials used, construction methods and techniques. Students investigate current trends to meet the needs of a target audience for particular products.

SCHOOL ASSESSMENT TYPES

- Design Process and Solution (60%)
- Specialised Skills Task (40%)

DESIGN AND TECHNOLOGY (continued)

FOOD TECHNOLOGY YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students focus on the dynamic nature of the food industry in Australian society. They develop an understanding of contemporary approaches and issues related to the food industry. They investigate and analyse the purpose of a specific meal, presentation features, ingredients and substitutes, cooking methods and techniques. Students work independently and collaboratively to develop skills and safe work practices in the preparation, storage and handling of food. Students investigate and debate contemporary industry trends to develop solutions for an identified issue. Students develop practical kitchen skills using various processes and equipment.

SCHOOL ASSESSMENT TYPES

- Design Process and Solution (60%)
- Specialised Skills Task (40%)

METALWORK YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students explore possible solutions to a problem while they investigate and analyse the purpose, design features, materials and production techniques for Metalwork products. Students create a design brief that provides the basis for the development of potential solutions. Students use the design process to generate ideas and problem solve restraints within their ideas.

Students use materials and systems to explore technologies in both contemporary and historical settings. They analyse the impacts of technology, including social, environmental and sustainable consequences. Students use a range of manufacturing technologies such as tools, machines, equipment, and/or systems to design and make products with resistant materials such as metals and plastics.

SCHOOL ASSESSMENT TYPES

- Design Process and Solution (60%)
- Specialised Skills Task (40%)

FURNITURE CONSTRUCTION YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students explore possible solutions to a problem while they investigate and analyse the purpose, design features, materials and production techniques for Woodwork product. Students create a design brief that provides the basis for the development of potential solutions. Students use the design process to generate ideas and develop practical skills to create products in wood. Students use a range of manufacturing technologies such as tools, machines, equipment, and/or systems to design and make products with resistant timber materials. Students specifically look at ideas of form of functions when creating their products as well as design choice to meet a target audience.

SCHOOL ASSESSMENT TYPES

- Design Process and Solution (60%)
- Specialised Skills Task (40%)

DESIGN AND TECHNOLOGY (continued)

BUSINESS INNOVATION YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

CONTENT

Students learn to use design thinking and assumption-based planning processes to anticipate, find, and solve problems. Students to work collaboratively in uncertain environments to identify problems or customer needs, generate and explore ideas and solutions, and make decisions based on incomplete information. Students engage with complex, dynamic, real-world problems, to identify and design, test, iterate, and communicate viable business solutions. Through design thinking and direct involvement in innovation, students not only develop but also understand and apply their critical and creative thinking skills.

SCHOOL ASSESSMENT TYPES

- Business Skills (Plan, Model and Solutions) (70%)
- Business Pitch and Evaluation (30%)

CHILD STUDIES YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

CONTENT

Students focus on children and their development from conception to 8 years and develop knowledge and understanding of young children through individual, collaborative, and practical learning. They explore concepts such as the developmental needs, rights of children, value of play, concepts of childhood and families, and the roles of parents and care-givers. They also consider the importance of behaviour management, child nutrition, and the health and well-being of children. Students create practical products for a specific brief and develop action plans based on research to assist with planning and problem solving. Students work collaboratively to outline issues, evaluate products and design decisions.

SCHOOL ASSESSMENT TYPES

- Practical Activity (50%)
- Group Activity (20%)
- Investigation (30%)

GRAPHIC DESIGN (IPP) YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

CONTENT

Students apply practical skills and design principles to provide creative solutions to text-based communication tasks. They create electronic text-based publications, and evaluate the development process. Students use technology to design and implement information processing solutions, and identify, choose, and use the appropriate software to process, manage and communicate information in a range of contexts. Practical products could include invitations, business documents such as reports, forms, brochures, advertisements, marketing flyers, web-based pages and digital presentations. Students need to build upon their design skills to create high quality products refined through the design process.

SCHOOL ASSESSMENT TYPES

- Practical Skills (50%)
- Product and Documentation (30%)
- Issues Analysis (20%)

DESIGN AND TECHNOLOGY (continued)

PHOTOGRAPHY YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students demonstrate a range of skills in digital photography process and media manipulation. Students experiment with DSLR camera as well as various tools, techniques and software. Students will develop understanding of the requirements within a design brief and use technical language to evaluate products. Students work within the design process to apply critical thinking and problem-solving skills. They incorporate technologies to address design problems, and challenges such as creating working drawings, concepts, sketches, prototypes, and story boards to work through idea generation. Students reflect on product outcomes and evaluate processes and effectiveness related to the final product.

SCHOOL ASSESSMENT TYPES

- Specialised Skills Task (40%)
- Design Process and Product (60%)

WORKPLACE PRACTICES YEAR 11

LEVEL Year 11

LENGTH 1 or 2 semesters

SACE CREDITS 10 or 20

CONTENT

Students develop knowledge and understanding of the nature, type, and structure of the workplace. Specific areas include, for example, the changing nature of work; industrial relations and legislation; safe and sustainable workplace practices; technical and industry-related skills; and issues in industry and workplace contexts. They learn about the relationships between work-related issues and practices, the changing nature of work, industrial relations influences, and workplace issues that may be local, national or global, or industry specific. Students can undertake learning in the workplace and reflect on and evaluate their experiences in relation to their capabilities, interests, and aspirations. The subject may include the undertaking of Vocational Education and Training (VET) as provided under the Australian Qualifications Framework (AQF).

SCHOOL ASSESSMENT TYPES

- Folio (40%)
- Performance (30%)
- Reflection (30%)

DIGITAL TECHNOLOGY YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

CONTENT

Students create practical, innovative solutions to problems of interest, through development of programming. By extracting, interpreting, and modelling real-world data sets, students identify trends to examine sustainable solutions to problems in, for example, business, industry, the environment and the community. Students develop and apply their skills in computational thinking and in program design, and engage in iterative project development, where a product or prototype is designed and tested and/or implemented in stages. They follow agile practices and/or iterative engineering design processes. They analyse and evaluate data, test hypotheses, make decisions based on evidence, and create solutions.

SCHOOL ASSESSMENT TYPES

- Individual Digital Solution (30%)
- Collaborative Project (20%)
- Project Skills (50%)

DESIGN AND TECHNOLOGY (continued)

FASHION DESIGN (TEXTILES) YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students apply critical thinking and problem solving skills, and incorporate technologies to address design problems and challenges within the context of Textiles. Students use the design process to explore possible solutions to meet a design brief. They investigate and analyse the purpose of specific garments, from and function, materials used, construction methods and techniques. Students look at innovative trends and the evolving technologies to analyse influences on a solution including ethical, economic, and sustainability issues. They consider the practical implications of these issues on society, design solutions and within textile industries.

SCHOOL ASSESSMENT TYPES

- Skills and application tasks (20%)
- Design Process and Solutions (50%)
- External Resource Study (30%)

FOOD TECHNOLOGY YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students apply critical thinking and problem solving skills, and incorporate technologies to address design problems and challenges within the context of Food. Students use the design process to explore possible solutions to meet a design brief. They investigate and analyse the purpose of a specific meal, presentation features, ingredients and substitutes, cooking methods and techniques. Students look at innovative food trends and the evolving technologies within food industries. Students analyse influences on a solution including ethical, economic, and sustainability issues. They consider the practical implications of these issues on society, design solutions and within food industries.

SCHOOL ASSESSMENT TYPES

- Skills and application tasks (20%)
- Design Process and Solutions (50%)
- External (30%)

METALWORK YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students explore possible solutions to a problem while they investigate and analyse the purpose, design features, materials and production techniques for a Metalwork product. Students create a design brief that provides the basis for the development of potential solutions. Students use the design process to generate ideas and develop practical skills in fitting and machining including form welding and fabrication work. Students use a range of manufacturing technologies such as tools, machines, equipment, and/or systems to design and make products with resistant materials such as metals and plastics. Students specifically look at ideas of form of functions when creating their products as well as design choice to meet a target audience.

SCHOOL ASSESSMENT TYPES

- Skills and application tasks (30%)
- Product (40%)
- Folio (30%)

DESIGN AND TECHNOLOGY (continued)

FURNITURE CONSTRUCTION YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students explore possible solutions to a problem while they investigate and analyse the purpose, design features, materials and production techniques for Woodwork product. Students create a design brief that provides the basis for the development of potential solutions. Students use the design process to generate ideas and develop practical skills to create products in wood using framing joints to develop assembly and finishing skills. Students use a range of manufacturing technologies such as tools, machines, equipment, and/or systems to design and make products with resistant timber materials. Students specifically look at ideas of form of functions when creating their products as well as design choice to meet a target audience.

SCHOOL ASSESSMENT TYPES

- Skills and application tasks (30%)
- Product (40%)
- Folio (30%)

BUSINESS INNOVATION YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

CONTENT

Students begin to develop the knowledge and skills to engage in business contexts in the modern world. They learn the process of finding and solving customer problems or needs through design thinking and using assumption-based planning tools. Students generate viable business products, services, and processes through innovative processes. Students gain an understanding of business operations, finance, marketing and technological skills, participate in planning, developing and controlling business activities and evaluate decisions on business practices. Students apply these skills in the iterative development of business models for start-up and existing businesses, analysing data to inform the decision making process, and communicating with a range of stakeholders.

SCHOOL ASSESSMENT TYPES

- Folio (30%)
- Practical (20%)
- Issues study (20%)
- External - Report (30%)

CHILD STUDIES YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

CONTENT

Students focus on children and their development from conception to 8 years. Students create practical products for a specific brief and develop action plans based on research to assist with planning and problem solving. Students explore and critically evaluate the role of government legislation and social structures, and the ways in which these influence the growth and development of children. Students investigate contemporary issues that are relevant to children and their development and may consider children who are migrants or refugees, displacement, health issues for children in Indigenous communities, access to education, the exploitation of children, literacy and numeracy, disability and equity, child protection, gender stereotyping in play, clothing, textiles, and merchandising, and children's television. Students analyse current trends in relation to children.

SCHOOL ASSESSMENT TYPES

- Practical (50%)
- Group Task (20%)
- External Investigation (30%)

DESIGN AND TECHNOLOGY (continued)

GRAPHIC DESIGN (IPP) YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

CONTENT

Students develop solutions to text-based problems in information processing and publishing, using imagination and creativity to make proposals and choices. They use the design process to apply problem-solving, critical-thinking, and decision making skills while generating ideas using elements and principles of design such as preparing layout and design plans that may incorporate visual imagery, printed text and graphical representations. Students critiquing existing text based publications and question the principles, method and resources used for developing particular products. Students develop an appreciation of the current social, legal, and ethical issues that relate to the processing, management, and communication of text-based information, and to assess their impact on marketing to audiences and organisations.

SCHOOL ASSESSMENT TYPES

- Practical Skills (40%)
- Issues Analysis (30%)
- External Product Documentation (30%)

PHOTOGRAPHY YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

SPECIAL REQUIREMENTS

Additional fees may apply to this subject

CONTENT

Students use images and text to design and make products that communicate information and concepts to a range of audiences. Students undertake a range of digital camera activities based on various photographic themes of their own choice. Students learn practical photography skills such as use a DSLR camera, lenses, lighting equipment, backdrops, portable product photography boxes, reflectors, flash units in conjunction with Adobe Photoshop and Adobe Lightroom for photo editing. Students generate ideas based on a brief and develop photographic products to meet various needs. They explore contemporary settings and analyse the impacts of photography historically to evaluate impacts and purposes.

SCHOOL ASSESSMENT TYPES

- Skills and Applications Task (20%)
- Major Product (25%)
- Minor Product (25%)
- External – Folio (30%)

WORKPLACE PRACTICES YEAR 12

LEVEL Year 12

LENGTH 2 semesters

SACE CREDITS 20

CONTENT

Students develop knowledge and understanding of the nature, type, and structure of the workplace. Specific areas include, for example, the changing nature of work; industrial relations and legislation; safe and sustainable workplace practices; technical and industry-related skills; and issues in industry and workplace contexts. They learn about the relationships between work-related issues and practices, the changing nature of work, industrial relations influences, and workplace issues that may be local, national or global, or industry specific. Students can undertake learning in the workplace and reflect on and evaluate their experiences in relation to their capabilities, interests, and aspirations. The subject may include the undertaking of Vocational Education and Training (VET) as provided under the Australian Qualifications Framework (AQF).

SCHOOL ASSESSMENT TYPES

- Folio (25%)
- Performance (25%)
- Reflection (20%)
- External (30%)