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Implementation year: 2017 School name: Ignatius Park College

Identify curriculum	Year level description	9 & 10
	Technologies Learning Area	<p>The Technologies curriculum provides students with opportunities to consider how solutions that are created now will be used in the future. Students will identify the possible benefits and risks of creating solutions. They will use critical and creative thinking to weigh up possible short-term and long-term impacts.</p> <p>As students' progress through the Technologies curriculum, they will begin to identify possible and probable futures, and their preferences for the future. They develop solutions to meet needs considering impacts on liveability, economic prosperity and environmental sustainability. Students will learn to recognise that views about the priority of the benefits and risks will vary and that preferred futures are contested.</p> <p>The Australian Curriculum: Technologies describes two distinct but related subjects:</p> <p>Design and Technologies, in which students use design thinking and technologies to generate and produce designed solutions for authentic needs and opportunities</p> <p>Digital Technologies, in which students use computational thinking and information systems to define, design and implement digital solutions.</p>
	Course Organisation	<p>The Australian Curriculum: Technologies will ensure that all students benefit from learning about and working with traditional, contemporary and emerging technologies that shape the world in which we live. This learning area encourages students to apply their knowledge and practical skills and processes when using technologies and other resources to create innovative solutions, independently and collaboratively, that meet current and future needs.</p> <p>The practical nature of the Technologies learning area engages students in critical and creative thinking, including understanding interrelationships in systems when solving complex problems. A systematic approach to experimentation, problem-solving, prototyping and evaluation instils in students the value of planning and reviewing processes to realise ideas. The Australian Curriculum: Design and Technologies actively engages students in creating quality designed solutions for identified needs and opportunities across a range of technologies contexts. Students consider the economic, environmental and social impacts of technological change and how the choice and use of technologies contributes to a sustainable future.</p> <p>By the end of each band, students will have had the opportunity to create different types of designed solutions that address the technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations and Materials and technologies specialisations. For breadth of study, the curriculum has been developed to enable students to complete at least one product, one service and one environment within each band.</p> <p>In the Australian Curriculum: Design and Technologies the two strands — Knowledge and Understanding, and Processes and Production Skills — are interrelated and inform and support each other. Students work independently and collaboratively on projects as they critique, explore and investigate needs and opportunities; generate, develop and evaluate ideas; and plan, produce and evaluate designed solutions. They use criteria for success that are predetermined, negotiated with the class or developed by students.</p> <p>The Design and Technologies Processes and Production Skills strand is based on the major aspects of design thinking, design processes and production processes. The content descriptions in this strand reflect a design process and would typically be addressed through a design brief. The Design and Technologies Processes and Production Skills strand focuses on creating designed solutions by:</p> <ul style="list-style-type: none"> • investigating • generating • producing • evaluating • collaborating and managing. • The band plan for Design and Technologies is organised to: <ul style="list-style-type: none"> • provide flexibility when making decisions about how the subject will be implemented, based on the local context and needs of students in schools • align with the Australia Curriculum: Design and Technologies, which is organised in two-year bands • provide a course structure and content that includes a sequence of teaching and learning and identified opportunities for assessment and feedback, developed using the Australian Curriculum content descriptions and achievement standards. • When developing teaching and learning programs, teachers should consider opportunities to: <ul style="list-style-type: none"> • combine aspects of the strands within a subject in different ways and to integrate content from each strand as it may be possible to address multiple technologies contexts in a unit • provide ongoing practice and consolidation of previously introduced knowledge and skills; while content descriptions do not repeat key skills across the bands, many aspects of the Technologies curriculum are recursive

	<p>provide students with learning experiences that meet their needs and interests and are relevant, rigorous and meaningful and allow for different rates of development, in particular for younger students and for those who need extra support</p> <p>apply design and systems thinking and design processes to investigate ideas, generate and refine ideas, plan, produce and evaluate designed solutions use a design brief when developing a unit of work; a design brief is a concise statement clarifying the project task and defining the need or opportunity to be resolved after some analysis, investigation and research; it usually identifies the users, criteria for success, constraints, available resources, timeframe for the project and may include possible consequences and impacts.</p> <p>The band plan course organisation allows schools to implement the Australian Curriculum: Design and Technologies:</p> <ul style="list-style-type: none"> • in conjunction with other learning areas/subjects • in a term • in a semester • in only one year of a band. <p>Safety</p> <p>All practical work must be organised with student safety in mind. Identifying and managing risk in Technologies learning addresses the safe use of technologies, as well as risks that can impact on project timelines. It covers all necessary aspects of health, safety and injury prevention and, in any technologies context, the use of potentially dangerous materials, tools and equipment. It includes ergonomics, safety including cyber safety, data security, and ethical and legal considerations when communicating and collaborating online. The current safety requirements are clearly explained at the Queensland government, Department of Education, Training and Employment website: http://education.qld.gov.au/health/safety/index.html. School must ensure that their practices meet current guidelines.</p> <p>Animal ethics</p> <p>Any teaching activities that involve caring, using, or interacting with animals must comply with the Australian code of practice for the care and use of animals for scientific purposes in addition to relevant state or territory guidelines. <i>The Animal Care and Protection Act 2001</i> and the accompanying Animal Care and Protection Regulation 2002 govern the treatment and use of all animals in Queensland (see www.legislation.qld.gov.au). The Department of Agriculture, Fisheries and Forestry Queensland (DAFF), through Biosecurity Queensland, is responsible for enforcement of the legislation.</p>
Phase Curriculum focus	<p>Curriculum focus: Years 7 to 10</p> <p>As students move into adolescence, they undergo a range of important physical, cognitive, emotional and social changes. Students often begin to question established community conventions, practices and values. Their interests extend well beyond their own communities and they develop their concerns about wider social, ethical and sustainability issues. Students in this age range increasingly look for and value learning they perceive as relevant, consistent with personal goals, and leading to important outcomes. Increasingly they analyse and work with more abstract concepts, consider the implications of individual and community actions and are keen to examine evidence prior to developing ideas.</p> <p>In the Technologies learning area, students use technologies knowledge and understanding; technologies processes and production skills; and systems, design, and/or computational thinking to solve and produce creative solutions to problems, needs or opportunities. They communicate and record their ideas using a range of media and technologies. These specialised problem-solving activities will be sophisticated, acknowledge the complexities of contemporary life and may make connections to related specialised occupations and further study.</p> <p>Students develop a global perspective; they have opportunities to understand the complex interdependencies involved in the development of technologies and between the developer and user in their solutions, and how these can contribute to preferred futures. Students develop an understanding of the interdependence of technologies development, values, beliefs and environment (systems thinking). Through undertaking technologies processes students develop systems, design and computational thinking; and organisational and project management skills.</p>
Band Description	<p>Learning in Design and Technologies builds on concepts, skills and processes developed in earlier years, and teachers will revisit, strengthen and extend these as needed.</p> <p>By the end of Year 10 students will have had the opportunity to design and produce at least four designed solutions focused on one or more of the five technologies contexts content descriptions. There is one optional content description for each of the following: Engineering principles and systems, Food and fibre production, Food specialisations and Materials and technologies specialisations. There is an additional open content description to provide flexibility and choice. Students should have opportunities to experience creating designed solutions for products, services and environments.</p> <p>In Year 9 and 10 students use design and technologies knowledge and understanding, processes and production skills and design thinking to produce designed solutions to identified needs or opportunities of relevance to individuals and regional and global communities. Students work independently and collaboratively. Problem-solving activities acknowledge the complexities of contemporary life and make connections to related specialised occupations and further study. Increasingly, study has a global perspective, with opportunities to understand the complex interdependencies involved in the development of technologies and enterprises. Students specifically focus on preferred futures, taking into account ethics; legal issues; social values; economic, environmental and social sustainability factors and using strategies such as life cycle thinking. Students use creativity, innovation and enterprise skills with increasing confidence, independence and collaboration.</p> <p>Using a range of technologies including a variety of graphical representation techniques to communicate, students generate and represent original ideas and production plans in two and three-dimensional representations using a range of technical drawings including perspective, scale, orthogonal and production drawings with sectional and exploded views. They produce rendered, illustrated views for marketing and use graphic visualisation software to produce dynamic views of virtual products.</p> <p>Students identify the steps involved in planning the production of designed solutions. They develop detailed project management plans incorporating elements such as sequenced time, cost and action plans to manage a range of design tasks safely. They apply management plans, changing direction when necessary, to successfully complete design tasks. Students identify and establish safety procedures that minimise risk and manage projects with safety and efficiency in mind, maintaining safety standards and management procedures to ensure success. They learn to transfer theoretical knowledge to practical activities across a range of projects.</p>

	Achievement standard	<p>By the end of Year 10 students explain how people working in design and technologies occupations consider factors that impact on design decisions and the technologies used to produce products, services and environments. They identify the changes necessary to designed solutions to realise preferred futures they have described. When producing designed solutions for identified needs or opportunities students evaluate the features of technologies and their appropriateness for purpose for one or more of the technologies contexts.</p> <p>Students create designed solutions for one or more of the technologies contexts based on a critical evaluation of needs or opportunities. They establish detailed criteria for success, including sustainability considerations, and use these to evaluate their ideas and designed solutions and processes. They create and connect design ideas and processes of increasing complexity and justify decisions. Students communicate and document projects, including marketing for a range of audiences. They independently and collaboratively apply sequenced production and management plans when producing designed solutions, making adjustments to plans when necessary. They select and use appropriate technologies skilfully and safely to produce high quality designed solutions suitable for the intended purpose.</p>			
	Semester overview	Semester 1 UNIT - Fresh food fast <p>A knowledge of selecting fresh produce is essential for designing solutions for healthy eating. How food is selected, prepared and presented for consumption makes the student more aware of healthy eating options. Foods that can be produced at a cheaper cost and comparably faster production time than fast food and relatively unhealthy eating options that are readily available in society today.</p> <p>Students apply the following processes and production skills:</p> <ul style="list-style-type: none"> investigating the principles of food safety, preservation, preparation and the impact of social, cultural and individual preferences on food products generating design ideas for products (food items), services (marketing) and environments (safe, hygienic spaces to produce food) selecting and using appropriate technologies skilfully and safely to produce high-quality food products evaluating ideas, processes and solutions against comprehensive criteria for success including sustainability and client needs collaborating and working individually throughout the process managing by using digital technologies to develop project plans that include time, cost, risk and production processes. 	Semester 2 UNIT - Food for me <p>Students investigate and make judgments on how the principles of food safety, preservation, preparation, presentation and sensory perceptions influence the creation of food solutions for healthy eating. They critically analyse factors (including social, ethical and sustainability considerations) that impact on designed solutions for global preferred futures and apply design thinking as they develop a specialised food product, service or environment for a dietary requirements for Adolescents and developing products suitable for both an active and sedentary lifestyle Students apply the following processes and production skills:</p> <ul style="list-style-type: none"> critically evaluating the food needs of their age group investigating the principles of food safety, preservation, preparation and the impact of social, cultural and individual preferences on food products generating design ideas for products (food items), services (marketing) and environments (safe, hygienic spaces to produce food) selecting and using appropriate technologies skilfully and safely to produce high-quality food products evaluating ideas, processes and solutions against comprehensive criteria for success including sustainability and client needs collaborating and working individually throughout the process Managing by using digital technologies to develop project plans that include 	Semester 3 UNIT - Food for special needs <p>Selecting and preparing food for vegetarians, coeliac, and other special dietary needs, investigating diet related disorders and dietary needs in various life stages, developing products to cater to various dietary requirements (catering event) and to improve overall health.</p> <p>Students apply the following processes and production skills:</p> <ul style="list-style-type: none"> critically evaluating the challenging food needs of diverse people investigating the principles of food safety, preservation, preparation and the impact of social, cultural and individual preferences on food products generating design ideas for products (food items), services (marketing) and environments (safe, hygienic spaces to produce food) selecting and using appropriate technologies skilfully and safely to produce high-quality food products evaluating ideas, processes and solutions against comprehensive criteria for success including sustainability and client needs collaborating and working individually throughout the process Managing by using digital technologies to develop project plans that include time, cost, risk and production processes. 	Semester 4 UNIT - Food production: Catering and marketing <p>Food production looking at the bulk production of food from a catering perspective to a marketing perspective, develop and market a food product to be potentially sold commercially</p> <p>Students apply the following processes and production skills:</p> <ul style="list-style-type: none"> critically evaluating the challenging food needs of diverse people investigating the principles of food safety, preservation, preparation and the impact of social, cultural and individual preferences on food products generating design ideas for products (food items), services (marketing) and environments (safe, hygienic spaces to produce food) selecting and using appropriate technologies skilfully and safely to produce high-quality food products evaluating ideas, processes and solutions against comprehensive criteria for success including sustainability and client needs collaborating and working individually throughout the process Managing by using digital technologies to develop project plans that include time, cost, risk and production processes.

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General capabilities and cross-curriculum priorities	    	   	   	      	
	<div><div> Numeracy</div><div> Ethical Understanding</div><div> Personal and Social Capability</div><div> Literacy</div><div> Intercultural Understanding</div><div> Information & Communication Technology Capability</div><div> Critical and Creative Thinking</div><div> Sustainability</div></div> <div> Australia's Engagement with Asia</div>				

	Content descriptions	Knowledge and Understanding				Sem 1	Sem 2	Sem 3	Sem 4
		<ul style="list-style-type: none">Critically analyse factors, including social, ethical and sustainability considerations, that impact on designed solutions for global preferred futures and the complex design and production processes involved (ACTDEK040)							✓
		<ul style="list-style-type: none">Explain how products, services and environments evolve with consideration of preferred futures and the impact of emerging technologies on design decisions (ACTDEK041)							
		<ul style="list-style-type: none">Investigate and make judgments on the ethical and sustainable production and marketing of food and fibre (ACTDEK044)							
		<ul style="list-style-type: none">Investigate and make judgments on how the principles of food safety, preservation, preparation, presentation and sensory perceptions influence the creation of food solutions for healthy eating (ACTDEK045)				✓	✓	✓	✓
		<ul style="list-style-type: none">Investigate and make judgments on how the characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions (ACTDEK046)							
		<ul style="list-style-type: none">Investigate and make judgments, within a range of technologies specialisations, on how technologies can be combined to create designed solutions (ACTDEK047)							✓
		Processes and Production Skills				Sem 1	Sem 2	Sem 3	Sem 4
	<ul style="list-style-type: none">Critique needs or opportunities to develop design briefs and investigate and select an increasingly sophisticated range of materials, systems, components, tools and equipment to develop design ideas (ACTDEP048)					✓	✓	✓	
	<ul style="list-style-type: none">Apply design thinking, creativity, innovation and enterprise skills to develop, modify and communicate design ideas of increasing sophistication (ACTDEP049)						✓		
	<ul style="list-style-type: none">Work flexibly to safely test, select, justify and use appropriate technologies and processes to make designed solutions (ACTDEP050)					✓	✓	✓	
	<ul style="list-style-type: none">Evaluate design ideas, processes and solutions against comprehensive criteria for success recognising the need for sustainability (ACTDEP051)				✓	✓	✓	✓	
	<ul style="list-style-type: none">Develop project plans using digital technologies to plan and manage projects individually and collaboratively taking into consideration time, cost, risk and production processes (ACTDEP052)								

	Assessment	Sem 1		Sem 2		Sem 3		Sem 4	
		Week	Assessment instrument	Week	Assessment instrument	Week	Assessment instrument	Week	Assessment instrument
		18	In class Practical Cooking Exam – Independent Task using the Stir-frying technique. Written planning document showing the development of their recipe	18	In class Practical Cooking Exam – Independent group task: Organising a food event for Adolescents (food stall) Written portfolio document showing the planning	18	Design a high tea event that is suitable for the elderly. Research what products are suitable for the target market Generate invitations, select a theme and suitable menu items for the function. Set up and execute the event In class Practical whole class group task: Organising a food event using large scale production methods. BOH & FOH roles to be decided Written portfolio document showing the planning	18	In class Practical Cooking Exam – Independent group task: Creating a food product for a specialised individual that can be produced in bulk production using production line methods Written portfolio document showing the planning and development of their product

Make judgments and use feedback	Moderation	<ol style="list-style-type: none">1. Cluster meetings to discuss expectations, plan unit of work and formulate assessment tasks.2. Monitoring student achievement levels through cross marking and professional dialogue.3. Reviewing student achievement through analysis and tracking of results and feedback.4. Reflection on the progress of the assessment conducted in the unit and consideration of any adaptations that may need to be made.	<ol style="list-style-type: none">1. Cluster meetings to discuss expectations, plan unit of work and formulate assessment tasks.2. Monitoring student achievement levels through cross marking and professional dialogue.3. Reviewing student achievement through analysis and tracking of results and feedback.4. Reflection on the progress of the assessment conducted in the unit and consideration of any adaptations that may need to be made.	<ol style="list-style-type: none">1. Cluster meetings to discuss expectations, plan unit of work and formulate assessment tasks.2. Monitoring student achievement levels through cross marking and professional dialogue.3. Reviewing student achievement through analysis and tracking of results and feedback.4. Reflection on the progress of the assessment conducted in the unit and consideration of any adaptations that may need to be made.	<ol style="list-style-type: none">1. Cluster meetings to discuss expectations, plan unit of work and formulate assessment tasks.2. Monitoring student achievement levels through cross marking and professional dialogue.3. Reviewing student achievement through analysis and tracking of results and feedback.4. Reflection on the progress of the assessment conducted in the unit and consideration of any adaptations that may need to be made.

