Hangarau (Technology)

Years 1 to 13

CAS Technology Department
Creating people who will build the future.

Overview:

Technology is an integral of part of human life. Society shapes and is shaped by technology
Technology is intervention by design.
Programs of learning in technology must address all components of the three strands as outlined in the New Zealand curriculum, Technological **Practice**, Technological **Knowledge** and **Nature** of Technology. While these components can be focused on individually, it must be recognised that they all interrelate in order to support the development of a deep, broad and critical technological literacy.

When developing technological skills and programs, appreciating the complex interrelationship between technology and society, students are afforded opportunities for both in-depth thinking and practical application.

The CAS Technology Department actively seeks to promote authentic activities, providing a context where all students can bring their own cultural experiences to their learning.

The CAS Technology Department respects the unique relationship that New Zealanders have with their physical environment. It embraces the significance of Māori culture and world views in its practice and innovation. Many of our units and daily practices link to Tikanga Maori.

Year Level	**Yr 1 - 3 See NZC level 1**
SOLO	**S**tructure **O**bservation of **L**earning **O**utcomes
Achievement Objectives	• Describe the outcome they are developing and identify the attributes it should have, taking account of the need or opportunity and the resources available. • Outline a general plan to support the development of an outcome, identifying appropriate steps and resources. • Investigate a context to communicate potential outcomes. Evaluate these against attributes; select and develop an outcome in keeping with the identified attributes.
Skills	By the end of students will be able to: • Safely use a pair of scissors. • Create a simple plan using pictures. • Describe and evaluate the outcome. • Describe everyday objects, what they are made of and what they are used for. • Use basic woodworking tools. Mix ingredients to produce healthy food.
Possible Topics	Use a variety of products from different Materials to show that they have different performance properties eg. Toy cars, dolls etc. Explore different ways to do the same thing and compare the outcome.
Terminology	Brief, explore, make, describe, use, plan, compare, evaluate
Assessments	Formative and practical skills as above. Teacher OTJ's and Peer and self assessment based on success criteria.

Teaching Strategies	● Model, demonstrate, brainstorm, discovery time, ICT, model making, woodwork table ● Provide the need or opportunity and develop the conceptual statement in negotiation with the students ● Provide a range of attributes for discussion ● Guide students to identify the attributes an appropriate outcome should have (success criteria). ● Provide students with a detailed plan of what they will be doing during their Technological Practice. This could be presented and explained as a design process the teacher has developed, with key stages that need to happen clearly identified within it ● Provide a range of appropriate resources for students to select those suitable for their use. Teachers should ensure all resources provided are appropriate for use. ● Students are encouraged to bring own resources for projects (to be checked by teacher for safety). ● Ensure that there is a brief with attributes against which a developed outcome can be evaluated ● Establish an environment that encourages and supports student innovation when generating design ideas ● Provide opportunities to develop drawing and modelling skills to communicate and explore design ideas. Emphasis should be on progressing 2D and 3D drawing skills and using manipulative media such as plasticine, wire, card etc ● Provide opportunities to develop skills required to produce their outcome.
Community Support Ideas	Parent help, visits to local businesses, resources from home

Year Level	**Yr 2 - 5 See NZC Level 2**
SOLO	**S**tructure **O**bservation of **L**earning **O**utcomes
Achievement Objectives	● Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available. ● Develop a plan that identifies the key stages and the resources available. ● Investigate a context to develop potential outcomes. Evaluate these against identified attributes; select and develop an outcome. ● Evaluate the outcome in terms of the need/opportunity. ● Understand that technology influences society and the environment and helps people.
Skills	By the end of Year 2 students will be able to: ● Safely use a pair of scissors. ● Create a simple plan using pictures. ● Describe everyday objects, what they are made of and what they are used for. ● Describe and evaluate the outcome. ● Correctly use a ruler to measure and create straight lines. Use appropriate joining techniques.
Terminology	make, plan, combine, identify
Assessments	practical skills as above

Teaching Strategies	● Model, demonstrate, brainstorm, group research, buddy evaluation ● Provide the need or opportunity and develop the conceptual statement in negotiation with the students ● Guide students to discuss the implications of the need or opportunity and the conceptual statements and support them to establish a list of attributes an appropriate outcome could have ● Provide students with an overview of the resources available and guide them to take this into account when identifying the attributes for the outcome ● Ensure that there is a brief against which planning to develop an outcome can occur ● Provide students with an overview of the stages they will be working through during their Technological Practice. This could be presented and explained as a design process the teacher has developed, and it could be used to support students to identify what the key stages are ● Provide a range of appropriate resources and guide students to decide which particular materials components, and/or software will be required for each key stage Teachers should ensure all resources provided are appropriate for use. ● Ensure that there is a brief with attributes against which a developed outcome can be evaluated ● Establish an environment that encourages and supports student innovation when generating design ideas ● Provide opportunities to develop drawing and modelling skills to communicate and explore design ideas. Emphasis should be on progressing 2D and 3D drawing skills and using manipulative media such as plasticine, wire, card etc. ● Provide opportunities to develop skills required to produce their outcome ● Guide students to evaluate their outcome against the brief.
Community Support Ideas	Parent help, visits to local businesses, resources from home

Year Level	**Yr 3 - 5 See NZC**
SOLO	By the end of the year students will be at least to uni structural level **S**tructure **O**bservation of **L**earning **O**utcomes
Achievement Objectives	• Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. • Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. • Investigate a context to develop ideas for potential outcomes. Trial and evaluate these against key attributes to select and develop an outcome to address the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity.
Skills	• Safely use a pair of cutting devices. • Create a plan using diagrams showing stages and resources required. • Measure, mix & cook ingredients to produce healthy food. • Describe objects, the materials used and why. Use woodworking and other basic construction tools. • Follow a recipe/plan. • Describe and evaluate the process outcome. • Correctly use a ruler to measure using millimetres and create straight lines. Create freehand sketches to promote ideas. • Use appropriate joining techniques.
Terminology	Brief, reflect, make, describe, evaluate, plan, combine, identify, imagine, predict
Assessments	Formative and practical skills as above
Teaching Strategies	• Model, demonstrate, brainstorm, group research, buddy evaluation • Provide the need or opportunity and develop the conceptual statement in negotiation with the students • Guide students to describe the physical and functional nature of an outcome (e.g. what it looks like and what it can do) taking into account the need or opportunity, conceptual statements and resources available • Guide students to identify the key attributes an appropriate outcome should have. Key attributes reflect those that are deemed essential for the successful function of the outcome. • Ensure that there is a brief against which planning to develop an outcome can occur • Provide students with an overview of what they will need to do during their Technological Practice and guide students to identify key stages and place these on a timeline of some sort • Provide resources including a range of appropriate materials, components, software, hardware, equipment, and/or tools for students to select from and guide students to select those that will be suitable for their outcome • Guide students to reflect on progress to make informed decisions regarding next steps • Ensure that there is a brief with attributes against which a developed outcome can be evaluated • Establish an environment that encourages and supports student innovation when generating design ideas • Provide opportunities to develop drawing and modelling skills to communicate and explore design ideas. Emphasis should be on progressing 2D and 3D drawing skills and using manipulative media such as plasticine, wire, card etc. • Provide opportunity to develop knowledge and skills related to the performance properties of the materials/components students could use • Support students to evaluate their outcome against the brief.

Community Support Ideas	Parent help, visits to local businesses, resources from home

Year Level	**Yr 6 - 9 See NZC**
SOLO	By the end of the year students will be at least to uni structural level **S**tructure **O**bservation of **L**earning **O**utcomes
Achievement Objectives	● Justify the nature of an intended outcome in relation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation. ● Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome. ● Investigate a context to develop ideas for feasible outcomes. Undertake functional modelling that takes account of stakeholder feedback, in order to select and develop the outcome that best addresses the key attributes. Incorporating stakeholder feedback, evaluate the outcome's fitness for purpose in terms of how well it addresses the need or opportunity. ● Understand how technology expands human possibilities and how it draws on knowledge from a wide range of disciplines.
Skills	● Safely use basic hand tools. ● machine use and safety. ● Create a plan using diagrams including specifications obtained from the brief, showing stages and resources required. ● Identify the skill set they need to complete their chosen outcome. ● Describe and evaluate the process and outcome in relation to how well it fits the brief. ● Describe objects, the properties of the materials used and how well they fit the purpose. ● Follow a recipe and plan a meal. ● Source ingredients to measure, mix to create healthy food using common cooking techniques. ● Correctly use a ruler to measure, transfer measurements using millimetres and create straight lines. ● Create freehand sketches to promote ideas. Use appropriate joining techniques. ● Basic coding structures ● Working as a team to solve real world problems ● Use of graphical programs (ICT)
Terminology	Brief, reflect, make, describe, evaluate, plan, combine, identify, imagine, predict Use trade specific terminology (e.g. Rebate joint, draw file, poach, sauté etc.)
Assessments	Formative and practical skills as above. Assess final product.

Teaching Strategies	● Model, demonstrate, brainstorm, group research, buddy evaluation ● Provide an appropriate context and issue that allows students to access resources (including key stakeholders) ● Guide students to identify a need or opportunity and develop a conceptual statement ● Support students to understand the physical and functional nature required of their outcome, and how the key attributes relate to this ● Guide students to consider the key stakeholders and the environment where the outcome will be located. ● Ensure that there is a brief against which planning to develop an outcome can occur ● Provide resources including a range of appropriate stakeholders, materials, components, software, hardware, equipment, and/or tools for students to select from and support students to select those that will be suitable for their outcome ● Provide planning tools and support students to use these to record key stages and resources needed, including when they will need to access stakeholder feedback, and to (Please note; records only need to capture what students plan to do and what they need to do it to guide their practice and allow them to review this regularly) ● Support students to identify regular review points and to review their progress at these points ● Guide students to manage time and organise their selected resources .based on regular reviews of progress ● Ensure that there is a brief with attributes against which a developed outcome can be evaluated;

	● Establish an environment that encourages and supports student innovation when generating design ideas; ● Provide opportunities to develop drawing and modelling skills to communicate and explore design ideas. Emphasis should be on progressing 2D and 3D drawing skills and increasing the range and complexity of functional modelling; ● Provide a range of materials/components & support students to develop the necessary knowledge & skills to test & use them; ● Guide students to evaluate outcomes in situ against key attributes.
Community Support Ideas	Parent help, visits to local businesses, resources from home

Year Level	**Yr 8 -10 See NZC**
SOLO	By the end of the year students will be at least to uni structural level **S**tructure **O**bservation of **L**earning **O**utcomes
Achievement Objectives	● Justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation. ● Analyse their own and others' planning practices to inform the selection and use of planning tools. Use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion. ● Analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. Undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialling in the physical and social environments. Use the information gained to select and develop the outcome that best addresses the specifications. Evaluate the final outcomes fitness for purpose against the brief. ● Understand how materials are selected based on desired performance criteria.
Skills	● Select and use workshop tools safely. ● Create a plan using diagrams, sketches and formal drawings including specifications obtained from the given or written brief, showing stages and resources required. ● Identify the skill set they need to complete their chosen outcome including any short falls they may have and be able to draw upon the abilities of others to complete the outcome. ● Describe and evaluate the process and outcome in relation to how well it fits the brief. ● Describe objects, the properties of the materials used, describe how well they fit the purpose and offer alternative materials based on their own research and testing. ● Follow a recipe and plan a meal. ● Source ingredients to measure, mix to create healthy food using common cooking techniques. ● Correctly use a ruler to measure, transfer measurements using millimetres and create straight lines. ● Create freehand sketches to promote ideas. Use appropriate joining techniques.
Terminology	Brief, reflect, make, describe, evaluate, plan, combine, identify, imagine, predict Use trade specific terminology (eg. Rebate joint, draw file, poach, sauté etc)
Assessments	Formative and practical skills as above. Assess final product.
Teaching Strategies	● Model, demonstrate, brainstorm, group research, buddy evaluation ● Provide an appropriate context and issue that allows students to access resources (including key stakeholders) ● Support students to identify a need or opportunity and develop a conceptual statement ● Support students understand the physical and functional nature required of their outcome ● Guide students to develop key attributes into specifications. ● Ensure that there is a brief against which planning to develop an outcome can occur ● Provide a range of planning tools and support students to analyse these to inform selection of the tools they will use to manage and efficiently record their planning

	● Support students to review and evaluate progress to inform their ongoing planning decisions ● Guide students to ensure appropriate resources are available (stakeholder/s, materials, components, software, equipment, tools and/or hardware) suitable for their outcome ● Support students to manage time and resources, including stakeholders interactions. ● Ensure that there is a brief with attributes against which the outcome communicated by the conceptual design can be evaluated, and that there is a more developed brief with clear specifications against which a developed outcome can be evaluated; ● Establish an environment that supports student innovation and encourages analysis of existing outcomes; ● Provide opportunities to develop drawing and modelling skills to communicate and explore design ideas. Emphasis should be on progressing 2D and 3D drawing skills and increasing the range and complexity of functional modelling; ● Provide a range of materials/components and support students to develop the necessary knowledge and skills to evaluate and use them; ● Guide students to evaluate outcomes in situ against brief specifications.
Community Support Ideas	Parent help, visits to local businesses, resources from home

Year Level	**Yr 11 BCITO** NZC document ITO An Industry based unit standard course which will develop workshop safety, hand and power tools while building the foundation skills in the carpentry and joinery trades.
SOLO	**What is SOLO:** **S**tructure **O**bservation of **L**earning **O**utcomes **Why is it useful?:** Scaffolds Learning, Personalised Learning, Encourages higher order thinking skills, Can be used as a tool for Monitoring progress. **How can I use it?:** To structure feedback, As a framework for answering exam style questions, To develop a deeper level of understanding.
Skills	**By the end of Year 11 BCITO students will be able to:** ● Competently use workshop hand tools and know the processes. ● Competently make a range of wood joints using common hardware fasteners and fixtures. ● Use appropriate PPE (Personal Protective Equipment) and safety rules in a workshop. ● Understand the materials they are using in the workshop.
Possible Topics	Deck, shelf and cupboard unit; Safety, Procedures and Processes, Hardware and Fasteners, Materials, Interpreting simple plans, Wood joints, Basic industrial maths.
NCEA Requirements/ Terminology	Values are part of the everyday curriculum – to be encouraged, modelled and explored. All curriculum should be consistent with the following eight statements: High expectations, Treaty of Waitangi, Cultural diversity, Inclusion, Learning to learn, Community engagement, Coherence and Future focus. Unit standard based courses which are achieved or not. BCITO terminology related to construction, materials, joints, hardware and fastenings, timber Know the names of appropriate tools and machines, Joints, timber.
Assessments	Practical and Written **BCITO** 24352 DKO and apply safe working practices in the construction of a BCATS project, 12935 Erect a spaced residential timber deck up to one metre high as a BCATS project, 24355 DKO construction and manufacturing materials used in BCATS projects, 25920 Use joints for a BCATS project, 25919 Use hardware and fastenings for a BCATS project
Teaching Strategies	Demonstration, Modelling, Discussion Exemplars of performance shared with students. Clear expectations given around deadlines and conditions of assessment. Opportunities for reassessment given wherever possible and desirable for the student. A variety of strategies are used including – practical work, note taking, problem solving, questioning, DVD's, games, demonstrations, Investigations
Community Support Ideas	Trees from farmers to mill Parent help, visits to local businesses, resources from home Links to Gateway
Achievement Objectives	The Achievement objectives found in the New Zealand Curriculum set out selected learning processes, knowledge, and skills relative to eight levels of learning. These expectations should be stated in ways that help teachers, students, and parents to recognise, measure, discuss, and chart progress.

Key Competencies	Thinking, Using language, symbols and texts, managing self, Relating to others, Participating and contributing.

Year Level	**Yr 12 BCITO** NZC document ITO An Industry based unit standard course which will develop workshop safety, hand and power tools while building the foundation skills in the carpentry and joinery trades.
SOLO	**What is SOLO:** **S**tructure **O**bservation of **L**earning **O**utcomes **Why is it useful?:** Scaffolds Learning, Personalised Learning, Encourages higher order thinking skills, Can be used as a tool for Monitoring progress. **How can I use it?:** To structure feedback, As a framework for answering exam style questions, To develop a deeper level of understanding.
Skills	**By the end of Year 12 BCITO students will be able to:** ● Competently use workshop hand tools and know the processes. Competently make a range of wood joints using common hardware fasteners and fixtures. Use appropriate PPE (Personal Protective Equipment) and safety rules in a workshop. Understand the materials they are using in the workshop. ● Use hand and power tools. Assemble furniture and other projects using joints and trade specific fasteners. Understand and interpret plans and extract the appropriate information. ● Use hand tools, machinery and equipment, read and understand plans, use trade appropriate skills and processes
Possible Topics	Safety, Procedures and Processes, Hardware and Fasteners, Materials, Interpreting simple plans, Wood joints, Basic industrial maths. Decks, saw-stool, outdoor chair, hand tools, portable power tools, bedside cabinet, Deck, cupboard unit, safety
NCEA Requirements/ Terminology	Values are part of the everyday curriculum – to be encouraged, modelled and explored. All curriculum should be consistent with the following eight statements: High expectations, Treaty of Waitangi, Cultural diversity, Inclusion, Learning to learn, Community engagement, Coherence and Future focus. Unit Standards Know the names of appropriate tools and machines. Know trade relevant terminology; Joints, timber
Assessments	Practical, Oral and Written **BCITO** 24354DKO and apply safe working practices in a BCATS workplace. 12935 Erect a spaced residential timber deck up to one metre high as a BCATS project, 24350 Identify, select, maintain and use portable power tools for BCATS projects, 25921 Make a cupboard as a BCATS project
Teaching Strategies	Demonstration, Modelling, Discussion Exemplars of performance shared with students. Clear expectations given around deadlines and conditions of assessment. Opportunities for reassessment given wherever possible and desirable for the student. A variety of strategies are used including – practical work, note taking, problem solving, questioning, DVD's, games, demonstrations, Investigations
Community Support Ideas	Trees from farmers to mill Links to Gateway Parent help, visits to local businesses, resources from home

Achievement Objectives	The Achievement objectives found in the New Zealand Curriculum set out selected learning processes, knowledge, and skills relative to eight levels of learning. These expectations should be stated in ways that help teachers, students, and parents to recognise, measure, discuss, and chart progress.
Key Competencies	Thinking, using language, symbols and texts, managing self, relating to others, participating and contributing.

Year Level	**Yr 12 Tools 4 work** NZC document ITO Course Description: In Year 12 students taking Materials Tech will be doing a practical strand following the Unit Standards programme. Each student will develop skills when undertaking set projects, then with their new skills find an issue that they can design a solution for, and build a prototype. They will then construct and evaluate their solutions to their design problems.
SOLO	**What is SOLO:** **S**tructure **O**bservation of **L**earning **O**utcomes **Why is it useful?:** Scaffolds Learning, Personalises Learning, Encourages higher order thinking skills, Can be used as a tool for Monitoring progress. **How can I use it?:** To structure feedback, As a framework for answering questions on worksheets , To develop a deeper level of understanding.
Skills	**By the end of Year 12 tools 4 work students will be able to:** ● Competently use workshop hand tools and know the processes. Competently make a range of joints using common hardware fasteners and fixtures. Use appropriate PPE (Personal Protective Equipment) and safety rules in a workshop. Understand the materials they are using in the workshop. ● Use hand and power tools. Assemble projects using welders and trade specific fasteners. Understand and interpret plans and extract the appropriate information. ● Use hand tools, machinery and equipment, read and understand plans, use trade appropriate skills and processes
Possible Topics	Safety, Procedures and Processes, Hardware and Fasteners, Materials, Interpreting simple plans, joints, Basic industrial maths. Decks,
NCEA Requirements/ Terminology	Values are part of the everyday curriculum – to be encouraged, modelled and explored. All curriculum should be consistent with the following eight statements: High expectations, Treaty of Waitangi, Cultural diversity, Inclusion, Learning to learn, Community engagement, Coherence and Future focus. Unit Standards Know the names of appropriate tools and machines. Know trade relevant terminology; Joints, timber
Assessments	Practical,Select, Use and Maintain Portable Handheld Engineering Power Tools Select, Use and Care for Engineering Hand Tools Select, use, and care for engineering marking-out equipment Select, use, and care for engineering dimensional measuring equipment Demonstrate Basic Knowledge of Engineering Materials Select, use and care for simple measuring devices used in engineering

Teaching Strategies	Demonstration, Modelling, Discussion Exemplars of performance shared with students. Clear expectations given around deadlines and conditions of assessment. Opportunities for reassessment given wherever possible and desirable for the student. A variety of strategies are used including – practical work, note taking, problem solving, questioning, DVD's, games, demonstrations, Investigations
Community Support Ideas	Trees from farmers to mill Links to Gateway Parent help, visits to local businesses, resources from home
Achievement Objectives	The Achievement objectives found in the New Zealand Curriculum set out selected learning processes, knowledge, and skills relative to eight levels of learning. These expectations should be stated in ways that help teachers, students, and parents to recognise, measure, discuss, and chart progress.
Key Competencies	Thinking, Using language, symbols and texts, managing self, Relating to others, Participating and contributing.

Year Level	**Yr 11 Hospitality ITO**	
SOLO	**What is SOLO:** **S**tructure **O**bservation of **L**earning **O**utcomes **Why is it useful?:** Scaffolds Learning, Personalises Learning, Encourages higher order thinking skills, Can be used as a tool for Monitoring progress. **How can I use it?:** To structure feedback, As a framework for answering exam style questions, To develop a deeper level of understanding.	
Skills	**By the end of Year 11 Hospitality students will be able to:** ● Perform basic cooking safely, ● Prepare food, ● Know food hygiene, ● Identify quality meats, fruit and vegetables. ● Use knives and kitchen equipment, ● Know how to store foods and prevent bacterial growth.	● Know how to prepare and present basic meals following simple recipes. ● To use common methods of cooking such as grilling, frying, boiling, baking, microwaving as well as apply time management getting meals ready. ● Read and understand plans/recipes, ● Use trade appropriate skills and processes
Possible Topics	Safety, Career pathways in the hospitality industry. Meat. Fruit and vegetables. Eggs and cheese. Hot finger food. Sauce and soup. Cake, sponge and scones. Demonstrate knowledge of knives.	
NCEA Requirements/ Terminology	Unit Standards Values are part of the everyday curriculum – to be encouraged, modelled and explored. All curriculum should be consistent with the following eight statements: High expectations, Treaty of Waitangi, Cultural diversity, Inclusion, Learning to learn, Community engagement, Coherence and Future focus. Hospitality terminology related to commercial kitchen, utensils and equipment, ingredients and cookery methods	

Assessments	Practical, Oral and Written as per "Service IQ" **Hospitality** US 21058 Career pathways in the hospitality industry, US 15900 Meat, US 15901 Fruit and vegetables, US 19770 Eggs and cheese, US 15919 Hot finger food, US 15920 Sauce and soup, US 15921 Cake, sponge and scones, US 21059 Demonstrate knowledge of knives
Teaching Strategies	Demonstration, Modelling, Discussion, Work books, Google docs and You Tube. Exemplars of performance shared with students. Clear expectations given around deadlines and conditions of assessment. Opportunities for reassessment given wherever possible and desirable for the student. A variety of strategies are used including – practical work, note taking, problem solving, questioning, DVD's, games, demonstrations, Investigations
Community Support Ideas	Links to Gateway Trade and commerce suppliers Farmers supplying produce, milk etc. Parent help, visits to local businesses, resources from home
Achievement Objectives	The Achievement objectives found in the New Zealand Curriculum set out selected learning processes, knowledge, and skills relative to eight levels of learning. These expectations should be stated in ways that help teachers, students, and parents to recognise, measure, discuss, and chart progress.
Key Competencies	Thinking, Using language, symbols and texts, managing self, Relating to others, Participating and contributing.

Year Level	**Yr 12 Hospitality (2019) ITO**
SOLO	**What is SOLO:** **S**tructure **O**bservation of **L**earning **O**utcomes **Why is it useful?:** Scaffolds Learning, Personalises Learning, Encourages higher order thinking skills, Can be used as a tool for Monitoring progress. **How can I use it?:** To structure feedback, As a framework for answering exam style questions, To develop a deeper level of understanding.
Skills	**By the end of Year 12 Hospitality students will be able to:** ● Perform basic cooking safely, ● Prepare food, Know food hygiene, ● Identify quality meats, fruit and vegetables. ● Know how to store foods and prevent bacterial growth. ● Know how to prepare and present basic meals following simple recipes. ● To use common methods of cooking such as grilling, frying, boiling, baking, microwaving as well as apply time management getting meals ready.
Possible Topics	Safety, Career pathways in the hospitality industry. Meat. Fruit and vegetables. Eggs and cheese. Hot finger food. Sauce and soup. Cake, sponge and scones. Demonstrate knowledge of knives. Safety, cold and cooked foods

NCEA Requirements/ Terminology	Values are part of the everyday curriculum – to be encouraged, modelled and explored. All curriculum should be consistent with the following eight statements: High expectations, Treaty of Waitangi, Cultural diversity, Inclusion, Learning to learn, Community engagement, Coherence and Future focus. **Hospitality** US 167 Food safety, US 13285 Knives, US 13276 Grilling, US 13283 Salads, US 13271 Frying, US 13278 Roasting, US 13280 Fruit and vegetable cuts, US 13281 Sandwiches Food safety, Knives, Grilling, Salads, Frying, Roasting, Fruit and vegetable cuts, Sandwiches.
Assessments	Practical, Oral and Written as per "Service IQ"
Teaching Strategies	Demonstration, Modelling, Discussion, Work books ,google docs and You Tube. Exemplars of performance shared with students. Clear expectations given around deadlines and conditions of assessment. Opportunities for reassessment given wherever possible and desirable for the student. A variety of strategies are used including – practical work, note taking, problem solving, questioning, DVD's, games, demonstrations, Investigations
Community Support Ideas	Links to Gateway Trade and commerce suppliers Farmers supplying produce, milk etc. Parent help, visits to local businesses, resources from home
Achievement Objectives	The Achievement objectives found in the New Zealand Curriculum set out selected learning processes, knowledge, and skills relative to eight levels of learning. These expectations should be stated in ways that help teachers, students, and parents to recognise, measure, discuss, and chart progress.
Key Competencies	Thinking, Using language, symbols and texts, managing self, Relating to others, Participating and contributing.

Year Level	**Yr 11 Technology** **Course Description:** This course is an extension of Year 10 Technology. By immersing students in the technological process it provides the opportunity to solve technological problems. Students will undertake two set projects, then with their new skills will find an issue that they can design a solution for, and build a prototype. They will then construct and evaluate their solutions to their design problems.
SOLO	

Achievement Objectives	• Justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation. • Analyse their own and others' planning practices to inform the selection and use of planning tools. Use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion. • Analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. Undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialling in the physical and social environments. Use the information gained to select and develop the outcome that best addresses the specifications. Evaluate the final outcome's fitness for purpose against the brief. • Understand how materials are selected based on desired performance criteria. • Working from a brief to address a need or opportunity • How modelling supports decision-making. • The social implications of their project.
Skills	• Select and use workshop tools safely. • Create a plan using diagrams, sketches and formal drawings including specifications obtained from the given or written brief, showing stages and resources required. • Identify the skill set they need to complete their chosen outcome including any short falls they may have and be able to draw upon the abilities of others to complete the outcome. • Describe and evaluate the process and outcome in relation to how well it fits the brief. • Describe objects, the properties of the materials used, describe how well they fit the purpose and offer alternative materials based on their own research and testing. • Follow a recipe and plan a meal. • Source ingredients to measure, mix to create healthy food using common cooking techniques. • Correctly use a ruler to measure, transfer measurements using millimetres and create straight lines. • Create freehand sketches to promote ideas. Use appropriate joining techniques.
Terminology	Brief, reflect, make, describe, evaluate, plan, combine, identify, imagine, predict Use trade specific terminology (eg. Rebate joint, draw file, poach, sauté etc)
Assessments	**AS91047 Internal** Undertake development to make a prototype to address a brief **AS90157 Internal** Implement basic procedures using resistant materials to make a specified product **91047 Internal** Undertake development to make a prototype to address a brief

Teaching Strategies	• Model, demonstrate, brainstorm, group research, buddy evaluation • Provide an appropriate context and issue that allows students to access resources (including key stakeholders) • Support students to identify a need or opportunity and develop a conceptual statement • Support students understand the physical and functional nature required of their outcome • Guide students to develop key attributes into specifications. • Ensure that there is a brief against which planning to develop an outcome can occur • Provide a range of planning tools and support students to analyse these to inform selection of the tools they will use to manage and efficiently record their planning

	• Support students to review and evaluate progress to inform their ongoing planning decisions • Guide students to ensure appropriate resources are available (stakeholder/s, materials, components, software, equipment, tools and/or hardware) suitable for their outcome • Support students to manage time and resources, including stakeholder's interactions. • Ensure that there is a brief with attributes against which the outcome communicated by the conceptual design can be evaluated, and that there is a more developed brief with clear specifications against which a developed outcome can be evaluated; • Establish an environment that supports student innovation and encourages analysis of existing outcomes; • Provide opportunities to develop drawing and modelling skills to communicate and explore design ideas. Emphasis should be on progressing 2D and 3D drawing skills and increasing the range and complexity of functional modelling; • Provide a range of materials/components and support students to develop the necessary knowledge and skills to evaluate and use them; • Guide students to evaluate outcomes in situ against brief specifications.
Community Support Ideas	Parent help, visits to local businesses, resources from home

Year Level	**Yr 12 Technology 2019** **Course Description:** This course is an extension of Year 10 Technology. By immersing students in the technological process it provides the opportunity to solve technological problems. Students will undertake two set projects, then

	with their new skills will find an issue that they can design a solution for, and build a prototype. They will then construct and evaluate their solutions to their design problems.
SOLO	
Achievement Objectives	● Justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation. ● Analyse their own and others' planning practices to inform the selection and use of planning tools. Use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion. ● Analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. Undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialling in the physical and social environments. Use the information gained to select and develop the outcome that best addresses the specifications. Evaluate the final outcome's fitness for purpose against the brief. ● Understand how materials are selected based on desired performance criteria. ● Working from a brief to address a need or opportunity ● How modelling supports decision-making. ● The social implications of their project.
Skills	● Select and use workshop tools safely. ● Create a plan using diagrams, sketches and formal drawings including specifications obtained from the given or written brief, showing stages and resources required. ● Identify the skill set they need to complete their chosen outcome including any short falls they may have and be able to draw upon the abilities of others to complete the outcome. ● Describe and evaluate the process and outcome in relation to how well it fits the brief. ● Describe objects, the properties of the materials used, describe how well they fit the purpose and offer alternative materials based on their own research and testing. ● Follow a recipe and plan a meal. ● Source ingredients to measure, mix to create healthy food using common cooking techniques. ● Correctly use a ruler to measure, transfer measurements using millimetres and create straight lines. ● Create freehand sketches to promote ideas. Use appropriate joining techniques.
Terminology	Brief, reflect, make, describe, evaluate, plan, combine, identify, imagine, predict Use trade specific terminology (eg. Rebate joint, draw file,weld etc)
Assessments	**AS91357 Internal** Undertake effective development to make and trial a prototype **AS91354 Internal**

	Undertake brief development to address an issue **91044 Internal** Undertake brief development to address a need or opportunity **AS91057 Internal** Implement basic procedures using resistant materials to make a specified product
Teaching Strategies	● Model, demonstrate, brainstorm, group research, buddy evaluation ● Provide an appropriate context and issue that allows students to access resources (including key stakeholders) ● Support students to identify a need or opportunity and develop a conceptual statement ● Support students understand the physical and functional nature required of their outcome ● Guide students to develop key attributes into specifications. ● Ensure that there is a brief against which planning to develop an outcome can occur ● Provide a range of planning tools and support students to analyse these to inform selection of the tools they will use to manage and efficiently record their planning

	● Support students to review and evaluate progress to inform their ongoing planning decisions ● Guide students to ensure appropriate resources are available (stakeholder/s, materials, components, software, equipment, tools and/or hardware) suitable for their outcome ● Support students to manage time and resources, including stakeholder's interactions. ● Ensure that there is a brief with attributes against which the outcome communicated by the conceptual design can be evaluated, and that there is a more developed brief with clear specifications against which a developed outcome can be evaluated; ● Establish an environment that supports student innovation and encourages analysis of existing outcomes; ● Provide opportunities to develop drawing and modelling skills to communicate and explore design ideas. Emphasis should be on progressing 2D and 3D drawing skills and increasing the range and complexity of functional modelling; ● Provide a range of materials/components and support students to develop the necessary knowledge and skills to evaluate and use them; ● Guide students to evaluate outcomes in situ against brief specifications.
Community Support Ideas	Parent help, visits to local businesses, resources from home

Year Level	**Yr 13 IT** **Course Description:** This course is being taught using Unit Standards in which the students will be learning to program websites using html and css. They will also be learning to work in more of a professional setting and how they need to interact with stakeholders. They will also be learning to code using more script based languages and the concepts of programming.
SOLO	By the end of the year students will be at least to uni structural level
Unit Standards	• Plan and design a website for a stakeholder. • Create the website using mark-up language in accordance with the design specifications. • Test and evaluate the website. • Complete end-user documentation. • Design a script to automate processes in a computer application. • Create the script. • Test the script. • Develop an interactive website for organisational use. • Test and evaluate the website. • Collaborate effectively with others in a digital environment.
Skills	• Create a plan using diagrams, sketches and formal drawings including specifications obtained from the given or written brief, showing stages and resources required. • Identify the skill set they need to complete their chosen outcome including any short falls they may have and be able to draw upon the abilities of others to complete the outcome. • Describe and evaluate the process and outcome in relation to how well it fits the brief. • Develop a series of websites according to a given brief • Learn where to access information and documents for scripting support • Create freehand sketches to map out their website design • Evaluate current websites according to function, appearance, and suitability.
Terminology	Brief, reflect, make, describe, evaluate, plan, combine, identify, imagine, predict , code, comment
Assessments	**29788 Develop and evaluate an interactive website for organisational use** **25657 Create a website for a stakeholder using a mark-up language** **29796 Collaborate effectively with others in a digital environment** **5954 V8 Automate processes in a computer application using scripting language**

Teaching Strategies	● Model, demonstrate, brainstorm, group research, buddy evaluation ● Provide an appropriate context and issue that allows students to access resources (including key stakeholders) ● Support students to identify a need or opportunity and develop a conceptual statement ● Support students understand the physical and functional nature required of their outcome ● Guide students to develop key attributes into specifications. ● Ensure that there is a brief against which planning to develop an outcome can occur ● Provide a range of planning tools and support students to analyse these to inform selection of the tools they will use to manage and efficiently record their planning

	● Support students to review and evaluate progress to inform their ongoing planning decisions ● Guide students to ensure appropriate resources are available (stakeholder/s, materials, components, software, equipment, tools and/or hardware) suitable for their outcome ● Support students to manage time and resources, including stakeholder's interactions. ● Ensure that there is a brief with attributes against which the outcome communicated by the conceptual design can be evaluated, and that there is a more developed brief with clear specifications against which a developed outcome can be evaluated; ● Establish an environment that supports student innovation and encourages analysis of existing outcomes; ● Provide a range of coding examples and support students to develop the necessary knowledge and skills to evaluate and use them; ● Guide students to evaluate outcomes against brief specifications.
Community Support Ideas	Parent help, visits to local businesses, resources from home