



International Education Agency of PNG

Technology Curriculum

Revised Edition – 2006

Technology: An Overview

In every culture on earth people interact constantly with their technologies. Technology is everywhere. It affects our daily lives in a myriad of ways. It provides for our survival and our entertainment.

Technology is concerned with solving human problems, meeting needs and improving lives. In the twentieth century there have been greater technological changes than at any other time in history, and the pace of this change seems to be increasing.

We live increasingly in man made environments. Considering the all pervading impact of this rapidly developing technology, it is vital that our students develop a wide range of technological understandings and skills.

Papua New Guinea has a rich history and tradition of complex technology designed to meet the needs of life in a sometimes hostile environment. As PNG moves rapidly to adopt many aspects of western society it becomes a fascinating environment for the study of diverse technologies.

Technology education provides a chance to apply learning from a number of other curriculum areas. It is highly integrated and allows students to use a combination of both intellectual and practical skills and knowledge. Because of this integration, technology education has considerable vocational value.

Beyond the design and production of technological solutions to problems, technology education is concerned with a range of important social, cultural, environmental and economic issues. Of particular value in the multicultural and international settings of IEA schools, is the opportunity the study of technology provides for learning about cultures past and present. Connecting the past and present to the future, students can see the continuum of technology and understand how primitive technologies have formed a basis for future developments in this area.

Technology and the IEA Key Outcomes

IEA schools will assist all children to:

... Be Self-Directing

The Technology curriculum involves students in a process which includes the design and manufacture of technological artifacts. To succeed in this process students must set high levels of personal goals and be able to demonstrate the commitment and perseverance to see their projects through to completion. In using information and communication technologies students take responsibility for their own learning, using exploratory approaches and evaluating products.

... Communicate Effectively

Technology requires that students develop the ability to use a wide range of communication strategies both formal and informal according to the requirements of a task or topic. At the same time, much of the curriculum is concerned with the use of information and communication technology. This aspect allows students to develop skills in a wide variety of computer related communications including word processing, multimedia, the Internet and e-mail.

... Behave Ethically

With increasing access to the communication of others through the Internet, students learn discernment in using and acknowledging the work of others. The curriculum also provides an opportunity to examine and evaluate the technology of other cultures and to explore aspects of ethical use of technology. Through this, students can develop an appreciation of the complexity of technological achievements and of the effects of these on societies.

... Work Collaboratively

As students progress through the Technology curriculum they discover that worthwhile products require team effort. They learn how to make use of the skills of others and how to share their successes and failures with those who have assisted them. The team work required in most technological investigation and development provides a wide range of opportunities for students to form groups and observe their dynamics.

... Analyse and Solve Problems

Problem solving in Technology is mainly concerned with the application of scientific knowledge to real problems. In so doing they must investigate the problem in some depth, research possible approaches, devise and test solutions and report on their progress. In doing this, students apply their knowledge of systems, materials, information and communication to solve problems of their own or other generations.

Technology in the PNG Context

Many of those traditional and appropriate technologies practised in PNG should be valued and preserved for the future generations and for the students of other cultural backgrounds to learn and appreciate the wide spectrum of PNG culture.

The PNG Perspectives on Technology will be apparent when

Teachers:

- make use of the locally available material and resource people from the community when planning teaching and learning strategies (taking into account the diversity of PNG culture)
- organise field trips and excursions to local areas for the students to experience and collect information
- focus on relevant technological practices and systems valued by the local community e.g. food preparation and processing, house building, boat building, bag making, and basket weaving.

Students:

- examine the use of appropriate technology in the local area e.g. gardening tools, fishing/hunting tools
- design and develop suitable systems incorporating materials, tools and processes used locally
- collect and collate useful information about traditional and modern practices of the technology process.

The Curriculum Strands

The technology curriculum is organised around three strands. The broad strands define the content of the curriculum, while the strand organisers define a process.

For each strand, Papua New Guinea provides a rich environment for study. The traditional cultures of PNG have highly developed technologies which contrast vividly with the modern Western cultures now being widely adopted. Schools should ensure that this diverse environment is widely utilised in implementing the Technology curriculum, and that the technology of traditional cultures is valued alongside more recently developed technologies.

While the student learning outcomes are organised around the three strands of materials, information and communication and systems, it is vital that learning experiences provide opportunities for students to be exposed to a broad range of content areas. In some schools an integrated approach to curriculum will guide the content of technology processes. Because of its integrated nature, teachers find that topic based approaches are often the most useful. Such approaches also cater for the need to develop an understanding of the technology process. Most technology learning should be centred around the development of technology projects and ideally result in the manufacture of some form of product.

In some schools certain content areas will be the domain of particular subjects or departments. These areas may include food technology, biotechnology, electronics, robotics, computer science, design and graphics and manufacturing.

In selecting content from these areas it is important that teachers ensure that the outcomes from all three curriculum strands are being adequately covered in each class. No single content area can provide this scope.

The strands are described below.

Materials

Human needs in society are met by a wide range of products made from a diverse variety of natural and synthetic materials. Each material has a unique set of properties which make it appropriate for use in certain ways and in making certain products.

The Technology curriculum strives to

- provide students with opportunities to explore and manipulate materials and the resulting products
- develop an understanding of the ways in which the choice and management of materials affects lifestyles, cultures, the economy and the environment
- develop a range of skills in manipulation and safe handling of a wide variety of materials.

Information and Communication

Information is defined as being a collection of data which has been assembled in such a way as to make it useful to society. Communication includes the interpretation and the passing on of information. No society has ever prospered without developing skills in the storage and transmission of information. Many different ways of processing information are used,

including direct interpersonal contact, print, illustrations, film, and the myriad of methods spawned by the development of the computer and the related communications revolution.

The Technology curriculum strives to

- provide students with opportunities to produce, store and communicate information in a variety of ways
- teach students to use a range of tools to enhance creativity and higher order thinking
- explore a variety of ways in which information is stored and transmitted
- explore ways in which communication is used and misused in a range of societies and the impact information has on the development of society.

Information and communication technologies (ICTs) are broadening to depend increasingly on computers and other electronic forms.

ICT refers to a range of tools that allow learners to access, store, retrieve, manipulate, present and re-present information electronically. These tools also encourage and allow for creativity and higher order thinking.

Information and Communication technologies can include tools such as facsimile machines, telephones, computers and video equipment. Computer software allows manipulation of information and electronic media and is also considered a tool within ICT.

Networks (local, national and international) provide the ability for learners to share, collaborate and communicate. Examples of such networks including phone systems, local area networks (LAN) and the Internet.

ICT should be viewed as a set of tools that can be integrated within the teaching and learning program. ICT is not a separate or discrete subject.

Systems

When people combine a variety of human and technical elements for some prescribed purpose or goal they have created a system. When inputs, processes and outputs are combined a system is the result. Virtually any completed product is a system. A system may be a household appliance such as a television, sewing machine or CD player. A system may also transcend many locations, such as the electrical, sewerage or water supply systems. Automated production relies on very complex systems including those based on robotics.

The Technology curriculum strives to

- provide students with opportunities to develop and explore systems
- help students acquire skills in the management and evaluation of existing systems
- develop understandings about the concepts of inputs, processes and outputs in relation to systems and can evaluate the efficiency of a system.
- develop skills in the assessment of cultural and environmental impact of a variety of systems.

The Technology Process

The five strand organisers form an integral part of each of the three strands. They outline a process through which problem solving must pass to meet a specific need. Each of the strand organisers is one element of the process.

The technology process is not necessarily linear. Often the reporting phase will give rise to new problems or projects which will allow the process to begin again. Consequently the technology process is best described as cyclic. Students should become skilled in moving through the process within each of the strands. The process can be applied sequentially, where students move directly from investigating to designing, producing and evaluating. Alternatively, students might have to return to any of the phases in order to solve a problem: for example, students continually evaluate during each phase and therefore will often have to return to a preceding phase, as they apply their learnings to real world problems and projects. These problems can be generated by teachers and students.

In implementing the Technology Curriculum students should be encouraged to engage in the process fully and teachers should try to use all of the outcomes relevant to a strand in planning a technology learning experience.

The strand organisers are illustrated in the diagram overleaf and described below.

Investigating

Investigation involves the identification of a particular problem and the broad analysis of a variety of possible solutions. Often the analysis calls for further exploration to gain knowledge about materials, information or systems required to analyse possible solutions to the problem.

Designing

This phase results in the completion of a design brief, which gives a direction for the remainder of the process. A design brief should describe simply and clearly what is to be designed. The design brief involves assessment of design alternatives and decisions about resources and equipment. A design brief may be presented using a combination of text and graphics.

Making

Making is the physical manifestation of the design brief. In Making the students develop skills through a variety of techniques using a range of equipment. Students learn to work cooperatively and discover appropriate levels of safety.

Evaluating

Evaluation is a process of testing and modification in which the end result is measured against the original problem. This testing and modification process can continue through several cycles until the students believe that, within the constraints of the resources available, no further improvements can be made. Students learn to assist others in making evaluations.

Reporting

Reporting involves sharing with others the information which has been gathered during the technology process. Students may demonstrate their work, report on their success or failure, or outline the reasons for their design choices or modifications. Reporting and recording may use a variety of different approaches and media.



**Curriculum Strand Organisers:
The Technology Process**

MATERIALS

	<i>LEVEL 1</i>	<i>LEVEL 2</i>	<i>LEVEL 3</i>	<i>LEVEL 4</i>	<i>LEVEL 5</i>
Level Outcomes					
	1.01 The student engages in the technology process using familiar materials.	2.01 The student engages in the technology process showing discernment in the use of familiar materials for different purposes.	3.01 The student engages in the technology process selecting materials for specific purposes and comparing the finished product with the original design.	4.01 The student engages in the technology process selecting materials which enhance the final product, testing the compatibility of design and materials as evidenced in the final product.	5.01 The student engages in the technology process using a range of materials and techniques with accuracy, to produce products that meet specific requirements.
Contributing Outcomes					
Investigating	<ul style="list-style-type: none"> ▪ Describe characteristics of common materials using existing vocabulary and suggest a range of possible uses for a variety of common materials. 	<ul style="list-style-type: none"> ▪ Relate the characteristics of a range of common materials to their uses 	<ul style="list-style-type: none"> ▪ Compare the suitability of various materials for specific given uses 	<ul style="list-style-type: none"> ▪ Investigate the implications of using certain materials and relate their qualities and characteristics to product design. 	<ul style="list-style-type: none"> ▪ Describe the effect of materials and processes on the function and presentation of a product and examine the appropriateness of products and processes in the light of needs, values and attitudes.
Designing	<ul style="list-style-type: none"> ▪ Generate ideas for design using commonly available materials and communicate these orally and through drawings. 	<ul style="list-style-type: none"> ▪ Select particular materials for design products because of the suitability of their characteristics 	<ul style="list-style-type: none"> ▪ Generate designs which justify suitability of materials and outline appropriate construction methods 	<ul style="list-style-type: none"> ▪ Produce designs which justify choice of materials based on an investigation of possible alternatives 	<ul style="list-style-type: none"> ▪ Produce detailed designs which outline choice of materials and process in light of functional environmental and aesthetic needs.
Making	<ul style="list-style-type: none"> ▪ Manipulate and process common materials, using equipment safely. 	<ul style="list-style-type: none"> ▪ Manipulate and process materials with increasing accuracy 	<ul style="list-style-type: none"> ▪ Manipulate and process materials and techniques safely in meeting requirement of own designs 	<ul style="list-style-type: none"> ▪ Choose materials which improve quality and presentation of product and manipulate and process materials and techniques safely to meet requirements of chosen designs 	<ul style="list-style-type: none"> ▪ Manipulate and process a range of materials and techniques with accuracy and safety, meeting requirements of detailed design plan.
Evaluating	<ul style="list-style-type: none"> ▪ Explain reasons for choice of materials. 	<ul style="list-style-type: none"> ▪ Compare a finished product with the original design and suggest further improvements 	<ul style="list-style-type: none"> ▪ Test the success of the finished product in light of the original design. 	<ul style="list-style-type: none"> ▪ Test the effectiveness and efficiency of the finished product and process. 	<ul style="list-style-type: none"> ▪ Compare finished product with similar products and test to evaluate efficiency, effectiveness and suitability of finished product
Reporting	<ul style="list-style-type: none"> ▪ Describe how a product works 	<ul style="list-style-type: none"> ▪ Describe the production process for products 	<ul style="list-style-type: none"> ▪ Describe appropriate improvement to products 	<ul style="list-style-type: none"> ▪ Describe the design and evaluation processes in various ways 	<ul style="list-style-type: none"> ▪ Describe and record modifications based on testing.

INFORMATION AND COMMUNICATION

	<i>LEVEL 1</i>	<i>LEVEL 2</i>	<i>LEVEL 3</i>	<i>LEVEL 4</i>	<i>LEVEL 5</i>
Level Outcomes					
	1.02 The student engages in the technology process producing information using sound and graphics through electronic media.	2.02 The student engages in the technology process to produce an information product that uses a variety of techniques and equipment.	3.02 The student engages in the technology process using a production technique that is appropriate to the task of modifying information.	4.02 The student engages in the technology process, selecting appropriate sources and presenting information for a specific purpose of own choosing.	5.02 The student engages in the technology process controlling the information to suit a particular audience and evaluating the completed product according to its impact.
Contributing Outcomes					
Investigating	<ul style="list-style-type: none"> ▪ Identify a number of ways in which information is presented 	<ul style="list-style-type: none"> ▪ Describe different ways in which information is used, constructed, presented, stored and transmitted 	<ul style="list-style-type: none"> ▪ Identify a range of different design features and analyse ways in which different production techniques suit information or communication products 	<ul style="list-style-type: none"> ▪ Identify the relationship between a type of data and presentation features in delivering suitable information or communication products 	<ul style="list-style-type: none"> ▪ Examine the implications and features of information and communication technology and the impact it has on humans
Designing	<ul style="list-style-type: none"> ▪ Consider a variety of ways in which an information product might be developed 	<ul style="list-style-type: none"> ▪ Identify some design techniques and plan a variety of simple approaches to producing an information product 	<ul style="list-style-type: none"> ▪ Identify and document procedures and equipment to be used in collecting data for a specific purpose 	<ul style="list-style-type: none"> ▪ Produce designs for a specific purpose and justify choices made 	<ul style="list-style-type: none"> ▪ Produce designs for a specific purpose and to suit a particular audience and justify design decisions.
Making	<ul style="list-style-type: none"> ▪ Communicate through electronic media using graphics or sound 	<ul style="list-style-type: none"> ▪ Access, store, transmit or present information using a variety of techniques and equipment 	<ul style="list-style-type: none"> ▪ Implement a planned information processing task involving the modification of information 	<ul style="list-style-type: none"> ▪ Present own information for a specific purpose using appropriate data sources, language, presentation features, techniques and equipment 	<ul style="list-style-type: none"> ▪ Control the impact and meaning of information by manipulating techniques, images, sound and language
Evaluating	<ul style="list-style-type: none"> ▪ Compare the communication of the same information in different ways and explain why a particular way was chosen. 	<ul style="list-style-type: none"> ▪ Compare a finished information product with the original design and suggest further improvements 	<ul style="list-style-type: none"> ▪ Evaluate quality and suitability of information presented considering available options and suggest appropriate modifications to presentation 	<ul style="list-style-type: none"> ▪ Develop and document ideas for better suiting an information product to its intended audience 	<ul style="list-style-type: none"> ▪ Determine the effects of information presented, on its audience
Reporting	<ul style="list-style-type: none"> ▪ Describe the information product 	<ul style="list-style-type: none"> ▪ Describe the production process for the information products 	<ul style="list-style-type: none"> ▪ Describe successful and unsuccessful techniques used 	<ul style="list-style-type: none"> ▪ Compare own information presentation with commercially created products 	<ul style="list-style-type: none"> ▪ Describe the impact of an information product on its audience.

SYSTEMS

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
Level Outcomes					
	1.03 The student engages in the technology process to identify simple systems and follow instructions to create one.	2.03 The student engages in the technology process to construct and operate a linear system, describing the interrelationships between inputs and outputs.	3.03 The student engages in the technology process, using appropriate techniques to construct a system, and test its effectiveness.	4.03 The student engages in the technology process to investigate a range of possible system designs and evaluate the potential of the system to meet human needs.	5.03 The student engages in the technology process to investigate the relationships between systems, people and the environment, and evaluates system designs according to a range of factors.
Contributing Outcomes					
Investigating	<ul style="list-style-type: none"> ▪ Identify some common systems and their uses and describe the input and output components 	<ul style="list-style-type: none"> ▪ Describe how the elements of simple systems work together and the relationship between inputs and outputs 	<ul style="list-style-type: none"> ▪ Describe the relationship between inputs, processes and outputs in a simple system 	<ul style="list-style-type: none"> ▪ Describe the sequence of various systems and identify how they meet human needs 	<ul style="list-style-type: none"> ▪ Examine the interaction of systems, people and the environment.
Designing	<ul style="list-style-type: none"> ▪ Generate ideas and a set of instructions for simple systems to solve given problems 	<ul style="list-style-type: none"> ▪ Use a variety of methods to communicate plans for a system 	<ul style="list-style-type: none"> ▪ Design a plan which illustrates the relationship between the components of the system and examines the techniques, materials and equipment requirements. 	<ul style="list-style-type: none"> ▪ Design a system and a way of monitoring and testing its performance, justifying choice of one particular option based on an investigation of alternatives 	<ul style="list-style-type: none"> ▪ Produce detailed designs using appropriate terms and symbols, taking note of functional, aesthetic, social and environmental needs
Making	<ul style="list-style-type: none"> ▪ Follow a set of instructions to create a familiar system 	<ul style="list-style-type: none"> ▪ Construct and operate simple linear systems 	<ul style="list-style-type: none"> ▪ Build, modify and test system using appropriate techniques 	<ul style="list-style-type: none"> ▪ Build, modify and test systems to manage and control performance within standards of quality and safety. 	<ul style="list-style-type: none"> ▪ Construct a system using appropriate techniques which allow for effective control by manipulating inputs
Evaluating	<ul style="list-style-type: none"> ▪ Suggest ways in which system designs could be improved or amended 	<ul style="list-style-type: none"> ▪ Compare the operation of a finished system with the original design and suggest further improvements 	<ul style="list-style-type: none"> ▪ Evaluate tests made in the light of original plans and compare functioning of system after modification 	<ul style="list-style-type: none"> ▪ Use own techniques to evaluate the system's function and efficiency in terms of time and resources. 	<ul style="list-style-type: none"> ▪ Evaluate and modify systems to improve function, performance, quality and use
Reporting	<ul style="list-style-type: none"> ▪ Describe how the system model works 	<ul style="list-style-type: none"> ▪ Describe the production process and operation of the system 	<ul style="list-style-type: none"> ▪ Describe operation of the process and effect of any variations in process 	<ul style="list-style-type: none"> ▪ Describe design and evaluation processes in various ways and the impact of the system on meeting human needs 	<ul style="list-style-type: none"> ▪ Describe and record the function, performance, quality, effectiveness, suitability and safety of a system in comparison with other options

Level 1

Materials	Information and Communications	Systems
Level Outcomes		
1.01 The student engages in the technology process using familiar materials.	1.02 The student engages in the technology process producing information using sound and graphics through electronic media.	1.03 The student engages in the technology process to identify simple systems and follow instructions to create one.
Contributing Outcomes		
<ul style="list-style-type: none"> ▪ Describe characteristics of common materials using existing vocabulary and suggest a range of possible uses for a variety of common materials. ▪ Generate ideas for design using commonly available materials and communicate these orally and through drawings. ▪ Manipulate and process common materials, using equipment safely. ▪ Explain reasons for choice of materials. ▪ Describe how a product works 	<ul style="list-style-type: none"> ▪ Identify a number of ways in which information is presented ▪ Consider a variety of ways in which an information product might be developed ▪ Communicate through electronic media using graphics or sound. ▪ Compare the communication of the same information in different ways and explain why a particular way was chosen. ▪ Describe the information product 	<ul style="list-style-type: none"> ▪ Identify some common systems and their uses and describe the input and output components ▪ Generate ideas and a set of instructions for simple systems to solve given problems ▪ Follow a set of instructions to create a familiar system ▪ Suggest ways in which system designs could be improved or amended ▪ Describe how the system model works

Level 2

Materials	Information and Communications	Systems
Level Outcomes		
2.01 The student engages in the technology process showing discernment in the use of familiar materials for different purposes.	2.02 The student engages in the technology process to produce an information product that uses a variety of techniques and equipment.	2.03 The student engages in the technology process to construct and operate a linear system, describing the interrelationships between inputs and outputs.
Contributing Outcomes		
<ul style="list-style-type: none"> ▪ Relate the characteristics of a range of common materials to their uses ▪ Select particular materials for design products because of the suitability of their characteristics ▪ Manipulate and process materials with increasing accuracy ▪ Compare a finished product with the original design and suggest further improvements ▪ Describe the production process for products 	<ul style="list-style-type: none"> ▪ Describe different ways in which information is used, constructed, presented, stored and transmitted ▪ Identify some design techniques and plan a variety of simple approaches to producing an information product ▪ Access, store, transmit or present information using a variety of techniques and equipment ▪ Compare a finished information product with the original design and suggest further improvements ▪ Describe the production process for the information products 	<ul style="list-style-type: none"> ▪ Describe how the elements of simple systems work together and the relationship between inputs and outputs ▪ Use a variety of methods to communicate plans for a system ▪ Construct and operate simple linear systems ▪ Compare the operation of a finished system with the original design and suggest further improvements ▪ Describe the production process and operation of the system

Level 3

Materials	Information and Communications	Systems
Level Outcomes		
3.01 The student engages in the technology process selecting materials for specific purposes and comparing the finished product with the original design.	3.02 The student engages in the technology process using a production technique that is appropriate to the task of modifying information.	3.03 The student engages in the technology process, using appropriate techniques to construct a system, and test its effectiveness.
Contributing Outcomes		
<ul style="list-style-type: none"> ▪ Compare the suitability of various materials for specific given uses ▪ Generate designs which justify suitability of materials and outline appropriate construction methods ▪ Manipulate and process materials and techniques safely in meeting requirement of own designs ▪ Test the success of the finished product in light of the original design. ▪ Describe appropriate improvement to products 	<ul style="list-style-type: none"> ▪ Identify a range of different design features and analyse ways in which different production techniques suit information or communication products ▪ Identify and document procedures and equipment to be used in collecting data for a specific purpose ▪ Implement a planned information processing task involving the modification of information ▪ Evaluate quality and suitability of information presented considering available options and suggest appropriate modifications to presentation ▪ Describe successful and unsuccessful techniques used 	<ul style="list-style-type: none"> ▪ Describe the relationship between inputs, processes and outputs in a simple system ▪ Design a plan which illustrates the relationship between the components of the system and examines the techniques, materials and equipment requirements. ▪ Build, modify and test system using appropriate techniques ▪ Evaluate tests made in the light of original plans and compare functioning of system after modification ▪ Describe operation of the process and effect of any variations in process

Level 4

Materials	Information and Communications	Systems
Level Outcomes		
<p>4.01 The student engages in the technology process selecting materials which enhance the final product, testing the compatibility of design and materials as evidenced in the final product.</p>	<p>4.02 The student engages in the technology process, selecting appropriate sources and presenting information for a specific purpose of own choosing.</p>	<p>4.03 The student engages in the technology process to investigate a range of possible system designs and evaluate the potential of the system to meet human needs.</p>
Contributing Outcomes		
<ul style="list-style-type: none"> ▪ Investigate the implications of using certain materials and relate their qualities and characteristics to product design. ▪ Produce designs which justify choice of materials based on an investigation of possible alternatives ▪ Choose materials which improve quality and presentation of product and manipulate and process materials and techniques safely to meet requirements of chosen designs ▪ Test the effectiveness and efficiency of the finished product and process. ▪ Describe the design and evaluation processes in various ways 	<ul style="list-style-type: none"> ▪ Identify the relationship between a type of data and presentation features in delivering suitable information or communication products ▪ Produce designs for a specific purpose and justify choices made ▪ Present own information for a specific purpose using appropriate data sources, language, presentation features, techniques and equipment ▪ Develop and document ideas for better suiting an information product to its intended audience ▪ Compare own information presentation with commercially created products 	<ul style="list-style-type: none"> ▪ Describe the sequence of various systems and identify how they meet human needs ▪ Design a system and a way of monitoring and testing its performance, justifying choice of one particular option based on an investigation of alternatives ▪ Build, modify and test systems to manage and control performance within standards of quality and safety. ▪ Use own techniques to evaluate the system's function and efficiency in terms of time and resources. ▪ Describe design and evaluation processes in various ways and the impact of the system on meeting human needs

Level 5

Materials	Information and Communications	Systems
Level Outcomes		
<p>5.01 The student engages in the technology process using a range of materials and techniques with accuracy, to produce products that meet specific requirements.</p>	<p>5.02 The student engages in the technology process controlling the information to suit a particular audience and evaluating the completed product according to its impact.</p>	<p>5.03 The student engages in the technology process to investigate the relationships between systems, people and the environment, and evaluates system designs according to a range of factors.</p>
Contributing Outcomes		
<ul style="list-style-type: none"> ▪ Describe the effect of materials and processes on the function and presentation of a product and examine the appropriateness of products and processes in the light of needs, values and attitudes. ▪ Produce detailed designs which outline choice of materials and process in light of functional environmental and aesthetic needs. ▪ Manipulate and process a range of materials and techniques with accuracy and safety, meeting requirements of detailed design plan. ▪ Compare finished product with similar products and test to evaluate efficiency, effectiveness and suitability of finished product ▪ Describe and record modifications based on testing. 	<ul style="list-style-type: none"> ▪ Examine the implications and features of information and communication technology and the impact it has on humans ▪ Produce designs for a specific purpose and to suit a particular audience and justify design decisions. ▪ Control the impact and meaning of information by manipulating techniques, images, sound and language ▪ Determine the effects of information presented, on its audience ▪ Describe the impact of an information product on its audience. 	<ul style="list-style-type: none"> ▪ Examine the interaction of systems, people and the environment. ▪ Produce detailed designs using appropriate terms and symbols, taking note of functional, aesthetic, social and environmental needs ▪ Construct a system using appropriate techniques which allow for effective control by manipulating inputs ▪ Evaluate and modify systems to improve function, performance, quality and use ▪ Describe and record the function, performance, quality, effectiveness, suitability and safety of a system in comparison with other options