

**Contents of Learning Elements under the Knowledge Contexts in Technology Education**

Information & Communication Technology	Materials & Structures	Operations & Manufacturing	Strategies & Management	Systems & Control	Technology & Living
<u>Common topics</u>		<u>Contents</u>			
Technology & Society		<ul style="list-style-type: none"> <li>● Legal issues</li> <li>● Ethical issues</li> <li>● Environmental issues</li> <li>● Health issues</li> <li>● Changes in lifestyle</li> </ul>			
Safety & Health		<ul style="list-style-type: none"> <li>● Protective clothing</li> <li>● Choice, use and care of tools, equipment and chemicals</li> <li>● Working attitude</li> <li>● Good housekeeping of work area</li> </ul>			
Information Processing & Presentation		<ul style="list-style-type: none"> <li>● Computer and computer operation</li> <li>● Application of information technology (IT)</li> <li>● Information processing and information processing tools</li> <li>● Issues related to the use of IT</li> </ul>			
Design & Applications		<ul style="list-style-type: none"> <li>● Basic elements of design</li> <li>● Design process</li> <li>● Design consideration</li> <li>● Fashion design</li> <li>● Product design</li> <li>● Cost-benefit analysis</li> </ul>			
Consumer Education		<ul style="list-style-type: none"> <li>● Consumers' rights and consumers' choices</li> <li>● Consequences of consumers' actions</li> </ul>			

<b>Information &amp; Communication Technology</b>	<b>Materials &amp; Structures</b>	<b>Operations &amp; Manufacturing</b>	<b>Strategies &amp; Management</b>	<b>Systems &amp; Control</b>	<b>Technology &amp; Living</b>
<p><b>Computer Systems</b></p> <ul style="list-style-type: none"> <li>• Hardware and software</li> <li>• Properties and functions of usual components</li> </ul> <p><b>Computer Networks</b></p> <ul style="list-style-type: none"> <li>• Usual components of a computer network</li> <li>• Use of computer networks</li> <li>• Internet activities</li> </ul> <p><b>Programming Concepts</b></p> <ul style="list-style-type: none"> <li>• Problem solving procedures and techniques</li> <li>• Ideas of a stored program</li> <li>• Data manipulation</li> </ul>	<p><b>Materials &amp; Resources</b></p> <ul style="list-style-type: none"> <li>• Types and nature of common materials</li> <li>• Material properties and testing</li> <li>• Appropriate application of resources for design work</li> <li>• Reuse and recycle of resources</li> </ul> <p><b>Material Processing</b></p> <ul style="list-style-type: none"> <li>• Processing of materials – removal, forming, joining and finishing</li> <li>• Appropriate choice and use of material process</li> </ul> <p><b>Structures &amp; Mechanisms</b></p> <ul style="list-style-type: none"> <li>• Simple properties of structure and movement</li> <li>• Different structural design for various needs</li> <li>• Use of mechanisms for transmission and control of movements</li> </ul>	<p><b>Tools &amp; Equipment</b></p> <ul style="list-style-type: none"> <li>• Safe use of tools and equipment</li> <li>• Appropriate choice and use of tools, equipment and machines for realisation of design solutions</li> </ul> <p><b>Production Process</b></p> <ul style="list-style-type: none"> <li>• Production process in various fields</li> <li>• Factors and constraints in choosing production process</li> <li>• Skills, procedures and resources for production process</li> </ul> <p><b>Project Management</b></p> <ul style="list-style-type: none"> <li>• Planning and organising work in steps or procedures</li> <li>• Co-ordination and co-ordination with individuals in projects: decision-making, planning, organisation, control and evaluation procedures</li> </ul>	<p><b>Business Environments, Operations &amp; Organisations</b></p> <ul style="list-style-type: none"> <li>• Business environments - economic, technological, cultural &amp; physical, social-political, legal</li> <li>• Different types of business organisations</li> <li>• Decision-making, planning, organisation, control, evaluation, and quality assurance in business operations and projects</li> </ul> <p><b>Resources Management</b></p> <ul style="list-style-type: none"> <li>• Financial budgeting (personal &amp; company) and reporting</li> <li>• Scheduling of resources</li> <li>• Human resources</li> </ul> <p><b>Marketing</b></p> <ul style="list-style-type: none"> <li>• Market research</li> <li>• Promotion campaigns</li> <li>• Customer services</li> <li>• Quality assurance</li> </ul>	<p><b>Concepts of System</b></p> <ul style="list-style-type: none"> <li>• Input, process and output</li> <li>• Open loop and closed control system</li> <li>• System components</li> </ul> <p><b>Application of Systems</b></p> <ul style="list-style-type: none"> <li>• Mechanical, electrical, electronic and pneumatic control systems</li> <li>• Model control systems</li> </ul> <p><b>System Integration</b></p> <ul style="list-style-type: none"> <li>• Interconnection of systems and sub-systems</li> </ul> <p><b>Control &amp; Automation</b></p> <ul style="list-style-type: none"> <li>• Contemporary products</li> <li>• Control for automation</li> <li>• Computer-aided manufacturing (CAM)</li> </ul>	<p><b>Food &amp; Nutrition</b></p> <ul style="list-style-type: none"> <li>• Food groups</li> <li>• Dietary goals &amp; eating habits</li> <li>• Meal planning</li> </ul> <p><b>Food Preparation &amp; Processing</b></p> <ul style="list-style-type: none"> <li>• Hygiene &amp; safety</li> <li>• Principles of food preparation &amp; processing</li> <li>• Skills in food preparation &amp; processing</li> </ul> <p><b>Fabric &amp; Clothing Construction</b></p> <ul style="list-style-type: none"> <li>• Choice of fabric in relation to design &amp; construction</li> <li>• Pattern and garment construction</li> </ul> <p><b>Fashion &amp; Dress Sense</b></p> <ul style="list-style-type: none"> <li>• Fashion trend &amp; development</li> <li>• Choice of clothing for different considerations</li> </ul> <p><b>Family Living</b></p> <ul style="list-style-type: none"> <li>• Family relationship</li> </ul> <p><b>Home Management &amp; Technology</b></p> <ul style="list-style-type: none"> <li>• Management of family resources &amp; budgeting</li> <li>• Food technology</li> <li>• Energy saving devices</li> </ul>