

**CAPS CURRICULUM**  
**Grade 9 Technology**



Can use LEGO

TERM 1 – Gr. 9 Structures		
Hours	Topic	Content, concepts and skills
2	<b>Design Skills</b>	Drawing 3D objects on paper with different views
2	<b>Design Skills</b>	Design problem: drawing in 3D
2	<b>Structures</b>	Static and dynamic forces. Strength of materials under the action of forces
FORMAL ASSESSMENT TASK 1: Mini PAT [70%]		FORMAL ASSESSMENT TASK 1: Mini-PAT TOPIC: Structures CONTENT: Identifying a problem within a given scenario
2	<b>Investigation skills</b>	Investigate a scenario on structures
2	<b>Making skills</b> <b>Costing</b>	Costing exercise and flow diagram
2	<b>Making Skills</b>	Model of a viable solution
4	<b>Evaluation and Communication</b>	Evaluate: teams use own evaluation instrument Team presentations
FORMAL ASSESSMENT TASK: [30%]		<b>Formal Assessment Task: Test</b>

16 hours in total: 12 hours use of LEGO

TERM 2 – Gr. 9 Mechanical System and Control		
Hours	Topic	Content, concepts and skills
2	<b>Mechanical systems and control</b>	Pneumatic system and hydraulic system.
2	<b>Investigation Skills</b>	The hydraulic press (including simple calculations). The hydraulic jack.
2	<b>Mechanical systems and control</b>	Pulley systems Mechanical control systems
2	<b>Mechanical systems and control</b>	Spur gears Bevel gears Rack-and-pinion gear system as Worm gear system
2	<b>Evaluation skills</b> <b>Design skills</b> <b>Communication skills</b>	Evaluate: mechanisms found in the modern kitchen and/or home, workshop/garage. Artistic Drawing: single vanishing point perspective, 3D drawing
FORMAL ASSESSMENT TASK 2: Mini PAT [70%]		TOPIC: Integrated Systems – Mechanical / Electrical / Other CONTENT: Problem Solving / Mechanical Advantage
2	<b>Investigation skills</b> <b>Design skills</b>	Investigate The design brief Sketches
3	<b>Making Skills</b>	Plan: working drawings Make: prototype/working model
2	<b>Communication skills</b>	Team presentations:
FORMAL ASSESSMENT TASK: [30%]		<b>Test</b>

17 hours in total: 17 hours use of LEGO

### TERM 3 – Gr. 9 Electrical/Electronic Systems

Hours	Topic	Content, concepts and skills
2	<b>Electrical systems and control</b> <b>Investigation skills</b>	Electrical component symbols Simple circuits Ohm's law quantitatively Action research
2	<b>Electrical systems and control</b>	RVI
4	<b>Electrical systems and control</b>	Switches, Diodes and LED Transistors, Sensors Thermistor, Touch or moisture detector, Capacitors
2	<b>Electronic systems and control</b>	Simple electronic circuits:
FORMAL ASSESSMENT TASK 3: Mini PAT [70%]		Short Practical Assessment Task Innovation: Electronic Systems and Control
2	<b>Investigating skills</b> <b>Design skills</b>	Investigate a circuit problem The design brief:
2	<b>Making skills</b>	Make: device /prototype/working model The model must showcase a viable solution to the problem.
4	<b>Communication skills</b>	Team presentations
FORMAL ASSESSMENT TASK: [30%]		<b>Test</b>

18 hours in total: 0 hours use of LEGO

### TERM 4 – Gr. 9 Processing

Hours	Topic	Content, concepts and skills
2	<b>Processing</b>	Preserving metal
2	<b>Processing Indigenous technology</b>	Preserving food
2	<b>Processing Investigation skills</b>	Types of plastics and their uses Investigation
2	<b>Processing Investigation skills</b>	Case study Systems diagram
FORMAL ASSESSMENT TASK 4: Mini PAT [70%]		TOPIC: Reduce - Reuse - Recycle
2	<b>Investigation skills</b>	Case study: plastics used on modern motor cars. Case study: plastics used around the home. Problem identification
2	<b>Design skills</b> <b>Making skills</b>	Sketch Plan Skills development
2	<b>Making skills</b> <b>Communication skills</b>	Practical sessions
2	<b>Final examination</b>	Summative year-end examination covering

16 hours in total: 0 hours use of LEGO