Satit Prasarnmit International Programme

Curriculum Pathway
Academic Year 2023-2024
Department: Business and Technology

Department Details	Assessment Types
Subject: ICT	**Assessment Type 1:**
Head of Department: brandon.al@spip.in.th	**Assessment Type 2:**
Head of Department Email: Brandon Allen	**Assessment Type 3:**
Subject Teacher(s): Nicholas Sebasco, William Coston	**Assessment Type 4:**
	Assessment Type 5:

Year	Term	Unit(s) of Work	Core Knowledge & Concepts
7	1	Robotics Electronics Scratch Programming Using the mBlocks IDE Python Programming Cyberpi Introduction to Make Block Robotics Kit	• Basic theory of automation and control • Basic concepts related to electricity • Basic theory of programming (Scratch and possibly some Python) • Logic and control flow • Understanding how to use the mBlocks IDE • Understanding the functionality of Cyberpi • Connecting Cyberpi to mBlock
	2	Distance Detection Project Orientation Detection Project Electronic Keyboard Project	• Sensors and screens • If-Else control flow • Understand the function of a range sensor • Build a distance detection unit • Display distance value on screen • Understand the function of an angle sensor • Use Scratch, mBlock, and Python to interact with range and angle sensors • Create a bat and ball game • Movement Sensing • Understanding the Multi-touch module • Generating sound programmatically
	3	Intermediate usage of Make Block Robotics Kit Lightsaber project Electric Gate Project Motor Lab Project	• Introduction to LED lights • LED strip programming • Understanding gyroscopes and accelerometers • Random number generation • Use the *servo* component to control the rotation of an object • Understanding motors
8	1	Robotics Electronics Scratch Programming Using the mBlocks IDE Python Programming	• Basic theory of automation and control • Basic concepts related to electricity • Basic theory of programming (Scratch and possibly some Python) • Logic and control flow • Understanding how to use the mBlocks IDE • Understanding the functionality of Cyberpi • Connecting Cyberpi to mBlock

		Cyberpi Introduction to Make Block Robotics Kit	
	2	Distance Detection Project Orientation Detection Project Electronic Keyboard Project	• Sensors and screens • If-Else control flow • Understand the function of a range sensor • Build a distance detection unit • Display distance value on screen • Understand the function of an angle sensor • Use Scratch, mBlock, and Python to interact with range and angle sensors • Create a bat and ball game • Movement Sensing • Understanding the Multi-touch module • Generating sound programmatically
	3	Intermediate usage of Make Block Robotics Kit Lightsaber project Electric Gate Project Motor Lab Project	• Introduction to LED lights • LED strip programming • Understanding gyroscopes and accelerometers • Random number generation • Use the *servo* component to control the rotation of an object • Understanding motors
9	1	Robotics Electronics Scratch Programming Using the mBlocks IDE Python Programming Cyberpi Introduction to Make Block Robotics Kit	• Basic theory of automation and control • Basic concepts related to electricity • Basic theory of programming (Scratch and possibly some Python) • Logic and control flow • Understanding how to use the mBlocks IDE • Understanding the functionality of Cyberpi • Connecting Cyberpi to mBlock
	2	Distance Detection Project Orientation Detection Project Electronic Keyboard Project	• Sensors and screens • If-Else control flow • Understand the function of a range sensor • Build a distance detection unit • Display distance value on screen • Understand the function of an angle sensor • Use Scratch, mBlock, and Python to interact with range and angle sensors • Create a bat and ball game • Movement Sensing • Understanding the Multi-touch module • Generating sound programmatically
	3	Intermediate usage of Make Block Robotics Kit Lightsaber project Electric Gate Project Motor Lab Project	• Introduction to LED lights • LED strip programming • Understanding gyroscopes and accelerometers • Random number generation • Use the *servo* component to control the rotation of an object • Understanding motors