

SMART CITIES - COURSE CURRICULUM

MAPPING AGAINST VICTORIAN AND AUSTRALIAN CURRICULUM

WEEK	FOCUS	VICTORIAN CURRICULUM	AUSTRALIAN CURRICULUM
1	Introduction to SMART Cities	Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (VCDTDS045)	Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (ACTDIK034 - Scootle)
2	Hands on Lab 1– Sensing the temperature	Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (VCDTDS045) Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and	Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements (ACTDIP036 - Scootle)

		security requirements (VCDTDI047)	
3	Hands on Lab 2– Connecting to the Arduino IOT Cloud	Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (VCDTDS045) Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and	
4	Hands on Lab 3– An IoT controlled temperature monitor	Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements (VCDTDI047) Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data (VCDTDI048)	Analyse simple compression of data and how content data are separated from presentation (ACTDIK035 - Scootle) Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements (ACTDIP036 - Scootle) Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data (ACTDIP037 - Scootle)

			Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (ACTDIK034 - Scootle)
5	Presentations	<p>Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (VCDTCD050)</p> <p>Design the user experience of a digital system, evaluating alternative designs against criteria including functionality, accessibility, usability and aesthetics (VCDTCD051)</p> <p>Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases (VCDTCD052)</p> <p>Develop modular programs, applying selected algorithms and data structures including using an object-oriented programming language (VCDTCD053)</p>	<p>Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (ACTDIP038 - Scootle)</p> <p>Design the user experience of a digital system by evaluating alternative designs against criteria including functionality, accessibility, usability, and aesthetics (ACTDIP039 - Scootle)</p> <p>Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases (ACTDIP040 - Scootle)</p> <p>Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language (ACTDIP041 - Scootle)</p>

			Plan and manage projects using an iterative and collaborative approach, identifying risks and considering safety and sustainability (ACTDIP044 - Scootle)
--	--	--	--

*Content for session six depends on the final student product which is being designed. This is the curriculum it has the potential to address, depending on how it is designed.