Content Descriptions and Outcomes

Australian Curriculum Levels 9-10	Victorian Curriculum Levels 9-10
Digital Systems	**Digital Systems**
Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital system (ACTDIK034)	Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (VCDTDS045)
Representation of Data	**Data and Information**
Analyse simple compression of data and how content data are separated from presentation (ACTDIK035)	Analyse simple compression of data and how content data are separated from presentation (VCDTDI046)
Collecting, Managing and Analysing Data	**Data and Information**
Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements (ACTDIP036) Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data (ACTDIP037)	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)
Investigating and Defining	**Creating Digital Solutions**
Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (ACTDIP038)	Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (VCDTCD050)
Generating and Designing	**Creating Digital Solutions**
Design the user experience of a digital system by evaluating alternative designs against criteria including functionality, accessibility, usability, and aesthetics (ACTDIP039) Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases (ACTDIP040)	Design the user experience of a digital system, evaluating alternative designs against criteria including functionality, accessibility, usability and aesthetics (VCDTCD051) Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases (VCDTCD052)
Producing and Implementing	**Creating Digital Solutions**
Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language (ACTDIP041)	Develop modular programs, applying selected algorithms and data structures including using an object-oriented programming language (VCDTCD053)
Evaluating	**Creating Digital Solutions**
Evaluate critically how student solutions and existing information systems and policies, take account of future risks and sustainability and provide opportunities for innovation and enterprise (ACTDIP042)	Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation (VCDTCD054)
Collaborating and managing	**Data and Information**
Create interactive solutions for sharing ideas and information online, taking into account safety, social contexts and legal responsibilities (ACTDIP043) Plan and manage projects using an iterative and collaborative approach, identifying risks and considering safety and sustainability (ACTDIP044)	Manage and collaboratively create interactive solutions for sharing ideas and information online, taking into account social contexts and legal responsibilities (VCDTDI049)

Achievement Standards

Australian Curriculum Levels 9-10	Victorian Curriculum Levels 9-10
By the end of Year 10, students explain the control and management of networked digital systems and the security implications of the interaction between hardware, software and users. They explain simple data compression, and why content data are separated from presentation. Students plan and manage digital projects using an iterative approach. They define and decompose complex problems in terms of functional and non-functional requirements. Students design and evaluate user experiences and algorithms. They design and implement modular programs, including an object-oriented program, using algorithms and data structures involving modular functions that reflect the relationships of real-world data and data entities. They take account of privacy and security requirements when selecting and validating data. Students test and predict results and implement digital solutions. They evaluate information systems and their solutions in terms of risk, sustainability and potential for innovation and enterprise. They share and collaborate online, establishing protocols for the use, transmission and maintenance of data and projects.	By the end of Level 10, students explain the control and management of networked digital systems and the data security implications of the interaction between hardware, software and users. Students explain simple data compression, and why content data are separated from presentation. They take account of privacy and security requirements when selecting and validating data and use digital systems to analyse, visualise and model salient aspects of data. Students share and collaborate online, establishing protocols for the legal and safe use, transmission and maintenance of data and projects. Students define and decompose complex problems in terms of functional and non-functional requirements. They design and evaluate user experiences and algorithms, and develop and test modular programs, including an object-oriented program. Students evaluate their solutions and information systems in terms of risk, sustainability and potential for innovation.