

|   | F   | 1-2   | 3-4  | 5-6  | 7-8   | 9-10  |
|---|---|---|--|--|---|---|
| <b>Digital systems</b>                        | AC9TDIFK01<br>recognise and explore digital systems (hardware and software) for a purpose | AC9TDI2K01<br>identify and explore digital systems and their components for a purpose   | AC9TDI4K01<br>explore and describe a range of digital systems and their peripherals for a variety of purposes<br><br>AC9TDI4K02<br>explore transmitting different types of data between digital systems  | AC9TDI6K01<br>investigate the main internal components of common digital systems and their function<br><br>AC9TDI6K02<br>examine how digital systems form networks to transmit data  | AC9TDI8K01<br>explain how hardware specifications affect performance and select appropriate hardware for particular tasks and workloads<br><br>AC9TDI8K02<br>investigate how data is transmitted and secured in wired and wireless networks including the internet  | AC9TDI10K01<br>investigate how hardware and software manage, control and secure access to data in networked digital systems   |
| <b>Data Representation</b>                    | AC9TDIFK02<br>represent data as objects, pictures and symbols                             | AC9TDI2K02<br>represent data as pictures, symbols, numbers and words  | AC9TDI4K03<br>recognise different types of data and explore how the same data can be represented differently depending on the purpose  | AC9TDI6K03<br>explain how digital systems represent all data using numbers<br><br>AC9TDI6K04<br>explore how data can be represented by off and on states (zeros and ones in binary)  | AC9TDI8K03<br>investigate how digital systems represent text, image and audio data using integers<br><br>AC9TDI8K04<br>explain how and why digital systems represent integers in binary   | AC9TDI10K02<br>represent documents online as content (text), structure (markup) and presentation (styling) and explain why such representations are important<br><br>AC9TDI10K03<br>investigate simple data compression techniques  |
| <b>Acquiring, managing and analysing data</b> |   |   |  |  | AC9TDI8P01<br>acquire, store and validate data from a range of sources using software, including spreadsheets and databases<br><br>AC9TDI8P02<br>analyse and visualise data using a range of software, including spreadsheets and databases, to draw conclusions and make predictions by identifying trends<br><br>AC9TDI8P03<br>model and query the attributes of objects and events using structured data | AC9TDI10P01<br>develop techniques to acquire, store and validate data from a range of sources using software, including spreadsheets and databases<br><br>AC9TDI10P02<br>analyse and visualise data interactively using a range of software, including spreadsheets and databases, to draw conclusions and make predictions by identifying trends and outliers<br><br>AC9TDI10P03<br>model and query entities and their relationships using |
| <b>Investigating and defining</b>             |   | AC9TDI2P01<br>investigate simple problems for known users that can be solved with digital systems   | AC9TDI4P01<br>define problems with given design criteria and by co-creating user stories   | AC9TDI6P01<br>define problems with given or co-developed design criteria and by creating user stories  | AC9TDI8P04<br>define and decompose real-world problems with design criteria and by creating user stories  | AC9TDI10P04<br>define and decompose real-world problems with design criteria and by interviewing stakeholders to create user stories  |
| <b>Generating and designing</b>               |   | AC9TDI2P02<br>follow and describe algorithms involving a sequence of steps, branching (decisions) and iteration (repetition)  | AC9TDI4P02<br>follow and describe algorithms involving sequencing, comparison operators (branching) and iteration<br><br>AC9TDI4P03<br>generate, communicate and compare designs   | AC9TDI6P02<br>design algorithms involving multiple alternatives (branching) and iteration<br><br>AC9TDI6P03<br>design a user interface for a digital system<br><br>AC9TDI6P04<br>generate, modify, communicate and evaluate designs                  | AC9TDI8P05<br>design algorithms involving nested control structures and represent them using flowcharts and pseudocode<br><br>AC9TDI8P06<br>trace algorithms to predict output for a given input and to identify errors<br><br>AC9TDI8P07<br>design the user experience of a digital system<br><br>AC9TDI8P08<br>generate, modify, communicate and evaluate alternative designs                             | AC9TDI10P05<br>design algorithms involving logical operators and represent them as flowcharts and pseudocode<br><br>AC9TDI10P06<br>validate algorithms and programs by comparing their output against a range of test cases<br><br>AC9TDI10P07<br>design and prototype the user experience of a digital system<br><br>AC9TDI10P08<br>generate, modify, communicate and critically evaluate alternative designs                              |
| <b>Producing and implementing</b>             |   |   | AC9TDI4P04<br>implement simple algorithms as visual programs involving control structures and input  | AC9TDI6P05<br>implement algorithms as visual programs involving control structures, variables and input  | AC9TDI8P09<br>implement, modify and debug programs involving control structures and functions in a general-purpose programming language   | AC9TDI10P09<br>implement, modify and debug modular programs, applying selected algorithms and data structures, including in an object-oriented programming language   |
| <b>Evaluating</b>                             |   | AC9TDI2P03<br>discuss how existing digital systems satisfy identified needs for known users   | AC9TDI4P05<br>discuss how existing and student solutions satisfy the design criteria and user stories  | AC9TDI6P06<br>evaluate existing and student solutions against the design criteria and user stories and their broader community impact  | AC9TDI8P10<br>evaluate existing and student solutions against the design criteria, user stories and possible future impact  | AC9TDI10P10<br>evaluate existing and student solutions against the design criteria, user stories, possible future impact and opportunities for enterprise   |
| <b>Collaborating and managing</b>             |   | AC9TDI2P04<br>use the basic features of common digital tools to create, locate and communicate content<br><br>AC9TDI2P05<br>use the basic features of common digital tools to share content and collaborate demonstrating agreed behaviours, guided by trusted adults | AC9TDI4P06<br>use the core features of common digital tools to create, locate and communicate content, following agreed conventions  | AC9TDI6P07<br>select and use appropriate digital tools effectively to create, locate and communicate content, applying common conventions  | AC9TDI8P11<br>select and use a range of digital tools efficiently, including unfamiliar features, to create, locate and communicate content, consistently applying common conventions<br><br>AC9TDI8P12<br>select and use a range of digital tools efficiently and responsibly to share content online, and plan and manage individual and collaborative agile projects                                     | AC9TDI10P11<br>select and use emerging digital tools and advanced features to create and communicate interactive content for a diverse audience<br><br>AC9TDI10P12<br>use simple project management tools to plan and manage individual and collaborative agile projects, accounting for risks and responsibilities   |
| <b>Privacy and security</b>                   | AC9TDIFP01<br>identify some data that is personal and owned by them                       | AC9TDI2P06<br>access their school account with a recorded username and password<br><br>AC9TDI2P07<br>discuss that some websites and apps store their personal data online   | AC9TDI4P08<br>access their school account using a memorised password and explain why it should be easy to remember, but hard for others to guess<br><br>AC9TDI4P09<br>identify what personal data is stored and shared in their online accounts and discuss any associated risks | AC9TDI6P09<br>access multiple personal accounts using unique passphrases and explain the risks of password re-use<br><br>AC9TDI6P10<br>explain the creation and permanence of their digital footprint and consider privacy when collecting user data | AC9TDI8P13<br>explain how multi-factor authentication protects an account when the password is compromised and identify phishing and other cyber security threats<br><br>AC9TDI8P14<br>investigate and manage the digital footprint existing systems and student solutions collect and assess if the data is essential to their purpose   | AC9TDI10P13<br>develop cyber security threat models, and explore a software, user or software supply chain vulnerability<br><br>AC9TDI10P14<br>apply the Australian Privacy Principles to critique and manage the digital footprint that existing systems and student solutions collect   |

**Legend**

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