

# Python Fundamentals Curriculum Links

Below are Content descriptions for the **7-8 Digital Technologies Curriculum** the highlighted ones are covered in this course:

## Digital Technologies Knowledge and Understanding

- Investigate how data is transmitted and secured in wired, wireless and mobile networks, and how the specifications affect performance (ACTDIK023)
- Investigate how digital systems represent text, image and audio data in binary (ACTDIK024)

## Digital Technologies Processes and Production Skills

- Acquire data from a range of sources and evaluate authenticity, accuracy and timeliness (ACTDIP025)
- Analyse and visualise data using a range of software to create information, and use structured data to model objects or events (ACTDIP026)
- Define and decompose real-world problems taking into account functional requirements and economic, environmental, social, technical and usability constraints (ACTDIP027)
- Design the user experience of a digital system, generating, evaluating and communicating alternative designs (ACTDIP028)
- Design algorithms represented diagrammatically and in English, and trace algorithms to predict output for a given input and to identify errors (ACTDIP029)
- Implement and modify programs with user interfaces involving branching, iteration and functions in a general-purpose programming language (ACTDIP030)
- Evaluate how student solutions and existing information systems meet needs, are innovative, and take account of future risks and sustainability (ACTDIP031)
- Plan and manage projects that create and communicate ideas and information collaboratively online, taking safety and social contexts into account (ACTDIP032)

Below are Content descriptions for the **9-10 Digital Technologies Curriculum** the highlighted ones are covered in this course

### Digital Technologies Knowledge and Understanding

- Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (ACTDIK034)
- Analyse simple compression of data and how content data are separated from presentation (ACTDIK035)

### Digital Technologies Processes and Production Skills

- 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)
- Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (ACTDIP038)
- 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)
- Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language (ACTDIP041)
- 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)
- 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)