[School Logo]	**[School Name]** **Year 7 Digital Technologies** **Learning Program 2019**

SCSA Syllabus – Year 7 Digital Technologies – Content Descriptions

Content covered in this Learning Program is marked as grey.

- Knowledge and understanding
  - Digital Systems
    1. Different types of networks, including wired, wireless and mobile networks (ACTDIK023)
    2. Hardware components of a network (ACTDIK023)

  - Representation of data
    1. Digital systems represent text, image and audio data (ACTDIK024)

- Processes and production skills
  - Collecting, managing and analysing data
    1. Explore how to acquire data from a range of digital sources (ACTDIP025)
    2. Create information using relevant software, and create data to model objects and/or events (ACTDIP026)

  - Digital implementation
    1. Design the user experience of a digital system (ACTDIP028)
    2. Create digital solutions that include a user interface where choices can be made (ACTDIP030)
    3. Create and communicate information collaboratively online, taking into account social contexts (ACTDIP032)

  - Creating solutions by:
    [Investigating and defining]
    1. Define and break down a given task, identifying the purpose (WATPPS39)
    2. Consider components/resources to develop solutions, identifying constraints (WATPPS40)

Commented [DN1]: I studied the Syllabus and chose as many contents as possible that could be taught within the short amount of time allocated to the subject. I chatted with the teacher who was responsible for the coding lessons for Years 7 and 8. He confirmed that his lessons are directly linked with the Processes and Production Skills Sub-Strand. I thus decided to focus mainly on the content knowledge, while including a small project on the production skills (**Descriptor 2.3**).

[Designing]

1. Design, develop, review and communicate design ideas, plans and processes within a given context, using a range of techniques, appropriate technical terms and technology (WATPPS41)
2. Follow a plan designed to solve a problem, using a sequence of steps (WATPPS42)

[Producing and implementing]

1. Safely make solutions using a range of components, equipment and techniques (WATPPS43)

[Evaluating]

1. Independently apply given contextual criteria to evaluate design processes and solutions (WATPPS44)

[Collaborating and managing]

1. Work independently, and collaboratively when required, to plan, develop and communicate ideas and information when using management processes (WATPPS45)

Context

- This Program is designed for 30 lessons, 3 lessons per week for one term.
- Student access to laptops during **all** lessons is assumed.
- No use of textbooks is assumed; however, the teacher may want to use *Digital Technologies for the Australian Curriculum 7&8 Workbook* from Nelson to further cover the Processes and production skills content.
- The teacher may prepare a class set of portable USB flash drives ("thumb drives") for managing student files and a few old desktops for disassembly and reassembly (demonstration and practical).

Typing practise

- It is highly recommended that all students participate in typing practises, although this is not a part of the curriculum.
- The teacher may implement any online or offline resources but the use of the website typing.com is recommended (free of charge).
- The teacher may allocate 10-15 minutes for typing practise every lesson and plan three 20-30 minute-long "typing competitions" across the term to keep students motivated.

Commented [DN2]: 2018 was the first year NAPLAN Online was introduced to the school. We noticed lots of students struggled writing with a keyboard because they rarely had any typing experience. Therefore, I included a short typing session in the beginning of every lesson to help them grow digital literacy. More is discussed later (**Descriptors 2.5, 2.6, 3.3**).

Learning Program

Week	Content	Resources and Assessment	SCSA reference

1 - 2	**Computer devices and parts**
	• Introduction to the course
	  ○ Survey on student knowledge
	  ○ Typing.com account setup
	  ○ First typing test
	• Basic data structure
	  ○ Definition of binary, bits, bytes, ASCII
	  ○ [Extension] Bitmap vs vector images
	• File extension
	• Computer devices – input, output, storage
		- Sample online survey (pdf)
		- Typing.com (webpage)
		- Student typing speed recording sheet (xlsx)
		
		- Write your name in ASCII worksheet
		[Assignment] Computer devices poster
			Digital systems represent text, image and audio data (ACTDIK024)

3	• Computer parts ○ Finding and explaining important parts such as CPU, RAM, motherboard, power supply and HDD	- Computer parts worksheet [Activity] computer disassembly and reassembly	
4	**Computer network** • Definition of a network • Wired and wireless networks – comparison • Mobile networks	- Computer networks video - Wired vs wireless network worksheet	Different types of networks, including wired, wireless and mobile networks (ACTDIK023)
5 - 6	• Network devices • IP addresses ○ The role of routers	- Network devices webquest [Activity] Router role-play [Activity] School Network Incursion [Test] Computer network	Hardware components of a network (ACTDIK023)

6 - 8	**Data management**
	• Introduction to Microsoft Excel
	• Microsoft Excel skills
	  ○ Creating a table, cell indices, merging cells
	  ○ Creating a chart
	  ○ Basic use of formula and simple functions (SUM, AVERAGE, etc.)
		- Design your timetable
		- Times table
		- Two-way table summary
		- Weather of the week
		
		[Test] Excel basics
			Create information using relevant software, and create data to model objects and/or events (ACTDIP026)
			
			Explore how to acquire data from a range of digital sources (ACTDIP025)

9 - 10	**Presentation project** • Project information and exemplars • In-class preparation • Presentation	- Example PPT on Feynman [Investigation] Presentation project	

Commented [DN3]: This section shows how I design a learning program that aligns explicitly with the WA SCSA Syllabus (**Descriptor 2.3**).

Commented [DN4]: I designed this section of the program in the following way: students learn how data is represented in a computer, and then how the devices within a computer exchange and analyse data. Finally, they discover how the devices are structured within a computer through disassembly and reassembly. The lesson then continues to the network structures and describes how computers exchange data externally (**Descriptor 2.2**).

Commented [DN5]: I set up an online survey to investigate students' previous knowledge and interests on the first day of the Course. I then used it to modify my lesson plans accordingly; see the comment below.

Commented [DN6]: These are the tasks I created for students to learn basic Microsoft Excel skills. The instructions were originally given verbally. However, since I found out that a handful of students already had experiences with Excel, I modified the tasks so that the instructions are given online and the students can follow them at their own pace (**Descriptor 3.6**).