Unit 1: Digital Assets - Content Summary

# Digital Asset

## Unit Desc.

The focus of this unit is on developing the students’ understanding of the **building blocks** of larger systems and developing the skills necessary to effectively **design and develop** **digital assets** for more complex **data-driven systems**. Students develop the skills and knowledge required to interpret and create their own digital assets for a range of purposes and audiences. They **analyse discrete components of existing processes and products**, examining how they interact within a system and/or re-design and develop assets.

## Unit Goals

* Comprehensively apply a design process and develop the individual structures of data driven systems
* Critically analyse, create, evaluate, and modify digital assets
* Evaluate the nature and interactions of individual digital assets within the constraints of a larger system

## Unit Content

1. Design Process
   1. Critically analyse and apply a design process, evaluating opportunities and constraints, and explain the decision making when developing an asset
   2. Critically analyse and apply the elements and principles of the creation of digital assets, for example, sections of code, web pages or 3D models
   3. Apply the design process to evaluate and develop the architecture of the building blocks of basic systems, for example, pseudocode, wireframes, or flowcharts
2. Strategies, methodologies and procedures
   1. Evaluate strategies, tools, and processes required to produce digital assets
   2. Research and investigate a range of appropriate digital assets and justify design decisions
   3. Analyse the selection and use of specific production tools which are appropriate for constructing digital assets
   4. Create a digital asset. For example sections of code, web pages or 3D models
   5. Design assets using computational, algorithmic and/or data-driven thinking
   6. Apply strategies to work both independently and collaboratively in time sensitive environments
3. Theories, concepts and materials
   1. Critically analyse the theories affecting the design and development of a digital asset. For example the importance of style guides, the theory of negative space in web design, and the polygon count for 3D model development
   2. Critically analyse and apply fundamental computer science concepts for problem solving in the development of digital assets
   3. Critically analyse the factors affecting the development of a digital asset within the context of its design environment
   4. Critically analyse legal, social and ethical responsibilities associated with the development of digital assets
4. Contexts
   1. Critically analyse how design is influenced by context including social, historical and cultural, and how the design of a digital assets may impact systems, solutions and projects
   2. Critically analyse the human considerations and challenges involved in the design and development of digital assets. For example the ethical, environmental and legal contexts, or the development of controversial technology
5. Communication
   1. Communicate accurately with others in an appropriate format both orally and in writing
   2. Communicate ideas and insights in a range of appropriate mediums and justify ideas coherently
   3. Explain the process of solving design problems and justify the choices made during the development of digital assets
   4. Justify ideas coherently using appropriate evidence and accurate referencing
6. Reflection
   1. Reflect on own learning style and performance including planning, time management to develop strategies to improve own learning

# VET

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| **Code** | **Competency Title** | **What it is/How to implement** |
| BSBSUS401 | Implement and monitor environmentally sustainable work practices | - Resource consumption and monitoring  - Not perfect, but can be covered when discussing the design process from a holistic perspective. |
| BSBWHS304 | Participate effectively in WHS communication and consultation processes | - WHS principles (cables bad, trip hazards, etc.)  - Again, not perfect but can be included in the same way as above |
| ICTWEB302 | Build simple websites using commercial programs | - Easily completed through the web version of the course |
| ICTWEB303 | Produce digital images for the web | - Not as easily completed as above, but if the students are adding images anyway, have them create one of them with GIMP/Inkscape |
| ICTGAM301 | Apply simple modelling techniques | - Easily completed through the game design version of the course |
| ICTPRG417 | Apply mathematical techniques for software development | - Sounds intense, but is just “can do maths in a programming language” so as long as a programming language is covered it’ll complete. |

# Overall Course Summary

* Digital Assets:
  + An individual, encapsulated, isolatable digital object
* Digital Applications:
  + A collection of interacting assets
* Digital Solutions:
  + An application, or series of applications, designed to solve a specific problem
* Structured Project:
  + Scaffolded project building. Could do it as a dictated, or student led, project.