

Learning Standards

Unit title/ statement of inquiry	Knowledge Content Students are expected to know the following...	Concepts	Curricular Competencies Students are expected to do the following...
Equality Animation (Python for Social Justice) To develop a more equal world, designers must empathize with others' perspectives and build solutions which bring communities together. 13 weeks	- Learn how to program using a text based language - Thinking procedurally (sequencing your instructions) - Thinking abstractly (using variables to model/represent reality) - Thinking logically: Making decisions (loops, ifs) - Thinking concurrently - How to code in Python - How to create simple animated images in pispiskel - Variables (integer, float, string and boolean) - If statements - Functions - Objects - methods and properties - Event based programming	Communities Perspective Empathy	Inquiring and analysing. - Explain and justify the need for a solution to a problem - Construct a research plan, which states and prioritizes the primary and secondary research needed to develop a solution to the problem - Analyse a group of similar products that inspire a solution to the problem - Develop a design brief, which presents the analysis of relevant research. Developing ideas - Develop a design specification, which outlines the success criteria for the design of a solution based on the data collected. - Present a range of feasible design ideas, which can be correctly interpreted by others. - Present the chosen design and outline the reasons for its selection. - Develop accurate planning drawings/diagrams and outline requirements for the creation of the chosen solution. Creating the solution - Construct a logical plan which outlines the efficient use of time and resources, sufficient for peers to be able to follow to create the solution - Demonstrate excellent technical skills when making the solution - Follow the plan to create the solution, which functions as intended - Explain changes made to the chosen design and plan when making the solution - Present the solution as a whole.
Service Website To develop successful solutions, the role of the designer is to collaborate, build strong relationships and understand all perspectives. 12 weeks	- How to develop designs applying feedback along the way. - How we embrace client feedback with a growth mindset - Understanding of serif and sans serif, decorative and script - Understanding of Colour Theory - Visual Syntax - How to build strong client.designer relationships - Drafting professional emails - Friendly follow ups - Building a website	Development Collaboration Perspective	
Robotics Great computational thinkers persist and use team-work, logic, and think from multiple perspectives to solve problems. 15 weeks	- What a robot is and the difference between hardware and software - Learn that to programme, you need to be strategic, specific and keep things simple. - Open and closed loop systems - Using reason to break down problems and find solutions. - How to build and program a robot using lego mindstorms - To use robotics computer programming tools to complete	Logic Collaboration Perspective	

- simple operations
- To upload a computer program to a robot
 - To construct a functioning computer program on a robot.
 - To construct a computer program to behave as intended
 - To use sensors to detect the environment and trigger a programmed response from a robot
 - To control a robots manipulative outputs

Evaluating

- Describe detailed and relevant testing methods, which generate accurate data, to measure the success of the solution
- Explain the success of the solution against the design specification
- Describe how the solution could be improved
- Describe the impact of the solution on the client/target audience.