Design

Criterion A: Inquiring and analyzing

Maximum: 8

At the end of year 3, students should be able to:

1. explain and justify the need for a solution to a problem
2. conduct a research plan, which states and prioritizes the primary and secondary research needed to develop a solution to the problem
3. analyze a group of similar products that inspire a solution to the problem
4. develop a design brief, which presents the analysis of relevant research.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **states** the need for a solution to the problem 2. **states some** of the main findings of relevant research. |
| 3-4 | The student:   1. **outlines** the need for a solution to a problem 2. **states** the research needed to **develop** a solution, **with some guidance** 3. **outlines one** existing product that inspires a solution to the problem 4. **develops** a **basic** design brief, which **outlines some of** the relevant research. |
| 5-6 | The student:   1. **explains** the need for a solution to a problem 2. **constructs**  a research plan, which **states** and **prioritizes** the primary and secondary research needed to **develop** a solution to the problem, **with some guidance** 3. **describes** a group of similar products that inspire a solution to the problem 4. **develops** a design brief, which **outlines** the **findings** of relevant research. |
| 7-8 | The student:   1. **explains** and **justifies** the need for a solution to a problem 2. **constructs**  a research plan, which **states** and **prioritizes** the primary and secondary research needed to **develop** a solution to the problem **independently** 3. **analyzes** a group of similar products that inspire a solution to the problem 4. **develops** a design brief, which **presents** the **analysis** of relevant research. |

Criterion B: Developing Ideas

Maximum: 8

At the end of year 3, students should be able to:

1. develop a design specification which outlines the success criteria for the design of a solution based on the data collected
2. present a range of feasible design ideas, which can be correctly interpreted by others
3. present the chosen design and outline the reasons for its selection
4. develop accurate planning drawings/diagrams and outline requirements for the creation of the chosen solution.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **lists** a few basic success criterion for the design of a solution 2. **presents** one design idea, which can be interpreted by others 3. **creates** incomplete planning drawings/diagrams. |
| 3-4 | The student:   1. **constructs** a list of the success criteria for the design of a solution 2. **presents a few** feasible design ideas, using an appropriate medium(s) **or explains**  key features, which can be interpreted by others 3. **outlines** the **main** reasons for choosing the design with reference to the design specification 4. **creates** planning drawings/diagrams or **lists** requirements for the creation of the chosen solution. |
| 5-6 | The student:   1. **develops** design specifications, which **identify** the success criteria for the design of a solution 2. **presents a range of** feasible design ideas, using an appropriate medium(s) **and explains**  key features, which can be interpreted by others 3. **presents** the chosen design and **outlines** the **main** reasons for its selection with reference to the design specification 4. **develops** accurate planning drawings/diagrams and **lists** requirements for the creation of the chosen solution. |
| 7-8 | The student:   1. **develops** a design specification, which **outlines** the success criteria for the design of a solution 2. **presents** a range offeasible design ideas, using an appropriate medium(s) **and annotation,**  which can be correctly interpreted by others 3. **presents** the chosen design and **outlines** the reasons for its selection with reference to the design specification 4. **develops** accurate planning drawings/diagrams and **outlines** requirements for the creation of the chosen solution. |

Criterion C: Creating the solution

Maximum: 8

At the end of year 3, students should be able to:

1. 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
2. demonstrate excellent technical skills when making the solution
3. follow the plan to create the solution, which functions as intended, explain changes made to the chosen design and plan when making the solution
4. present the solution as a whole.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **demonstrates minimal** technical skills when making the solution 2. **creates** the solution, which functions **poorly** and is presented **in an incomplete form.** |
| 3-4 | The student:   1. **outlines** each step in a plan that contains some details, resulting in peers having difficulty following the plan to create the solution 2. **demonstrates satisfactory** technical skills when making the solution 3. **creates** the solution, which **partially** functions and is **adequately** presented 4. **outlines** changes made to the chosen design **or** plan when making the solution. |
| 5-6 | The student:   1. **constructs** a plan, which **considers** time and resources, sufficient for peers to be able to follow to create the solution 2. **demonstrates competent** technical skills when making the solution 3. **creates** the solution, which functions **as intended** and is presented **appropriately** 4. **outlines** changes made to the chosen design **and** plan when making the solution. |
| 7-8 | The student:   1. **constructs** a **logical** plan, which **outlines** the efficient use of time and resources, sufficient for peers to be able to follow to create the solution 2. **demonstrates excellent** technical skills when making the solution 3. follows the plan to **create** the solution, which functions **as intended** and is presented **appropriately** 4. **explains** changes made to the chosen design and plan when making the solution. |

Criterion D: Evaluating

Maximum: 8

At the end of year 3, students should be able to:

1. describe detailed and relevant testing methods, which generate accurate data, to measure the success of the solution
2. explain the success of the solution against the design specification
3. describe how the solution could be improved
4. describe the impact of the solution on the client/target audience.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **describes** **a** testing **method**, which is used to measure the success of the solution 2. **states** the success of the solution. |
| 3-4 | The student:   1. **describes** a **relevant** testing **method**, which generates data, to measure the success of the solution 2. **outlines** the success of the solution against the design specification based on relevant product testing 3. **lists** the ways in which the solution could be improved 4. **outlines** the impact of the solution on the client/target audience. |
| 5-6 | The student:   1. **describes** **relevant** testing **methods**, which generate data, to measure the success of the solution 2. **describes** the success of the solution against the design specification based on **relevant** product testing 3. **outlines** how the solution could be improved 4. **describes** the impact of the solution on the client/target audience, **with guidance**. |
| 7-8 | The student:   1. **describes detailed and** **relevant** testing **methods**, which generate **accurate** data, to measure the success of the solution 2. **explains** the success of the solution against the design specification based on **authentic** product testing 3. **describes** how the solution could be improved 4. **describes** the impact of the solution on the client/target audience. |