LEICHHARDT CAMPUS

# TASFACULTY

ASSESSMENT TASK COVERSHEET:

Stage 5 – Year 10

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| UNIT |

Designing for Space - Report.

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| WEIGHTING: |

25%

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| DUE DATE: |

Term 2, Week 1.

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| TIME ALLOWED: |

6 weeks (in class assessment)

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| OUTCOMES: |

5.2.1, 5.3.1, 5.5.2, 5.6.1, 5.6.2

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| TASK |

In this task you are to build and code a sensor package for a replacement Mars Rover. The Project, called “Ode to Oppy” will allow you to learn about the sensors, servos and control systems used on a Mars Rover. To test your solution you will need to develop the sensor package, including 3D printed case, and the software to collect a range of data from your rover.

You will need to report on:

* The scientific and technological concepts related to your coded project.
* The data that you were attempting to gather in your experiment.
* Critically evaluating the success of each stage of the design project.
* Identifying the decision making that occurred within the project and provide examples of problem solving.
* Analysis of the work done by yourself, and your team, in the project.

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| SPECIAL PROVISIONS |

A modified version of this task is available to students seeking special provisions. See your teacher or the course head teacher to organise the alternate resources.

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| ASSESSMENT CRITERIA |

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Students are required to submit an illness/misadventure form if they are not able to hand in this assessment task on the due date. Failure to submit on the due date will result in a zero result and a non-completion of ROSA award letter.

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| MARKING CRITERIA and FEEDBACK |

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| **Science and Technological Concepts:** 5.2.1.describe how scientific and mechanical concepts relate to technological and engineering practice. | | | | |
| **A (Greatly exceeds expectations)** | **B (Exceeds expectations)** | **C** | **D (Slightly misses expectations)** | **E (Clearly misses expectation)** |
| Report ***evaluates*** some and ***analyses*** all the science and technology involved in their solution. | Report has ***analysis*** of the science and technology involved in their solution. | Report has clear ***descriptions*** of the science and technology involved in their solution. | Report has ***descriptions*** of most of the science and technology involved in their solution. | Report only ***identifies*** the science and technology in their solution. |

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| **Data Collection:** 5.3.1: produces quality solutions that respond to identified needs and opportunities in each design project. | | | | |
| **A (Greatly exceeds expectations)** | **B (Exceeds expectations)** | **C (Expectation)** | **D (Slightly misses expectations)** | **E (Clearly misses expectation)** |
| Report ***explains*** the form and type of data that they were attempting to gather. Uses data analysis methods. | Report ***describes*** the form and type of data that they were attempting to gather. Uses data analysis methods. | Report clearly ***identifies*** the form and type of data that they were attempting to gather. | Report ***identifies*** the form or type of data that they were attempting to gather. | Report does not clearly ***identify*** the form or type of data that they were attempting to gather. |

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| **Design Process:** 5.5.2: critically evaluates innovative, enterprising and creative solutions. | | | | |
| **A (Greatly exceeds expectations)** | **B (Exceeds expectations)** | **C (Expectation)** | **D (Slightly misses expectations)** | **E (Clearly misses expectation)** |
| Student ***critically*** ***evaluates*** the success of each stage of the design project. Further evaluation of the broader program is also presented. | Student ***critically*** ***evaluates*** the success of each stage of the design project. | Student ***evaluates*** the success of each stage of the design project. | Student ***analyses*** the success of each stage of the design project. | Student does not clearly ***analyse*** the success of each stage of the design project. |

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| **Problem Solving:** 5.6.1: selects and uses appropriate problem solving and decision-making techniques in a range of STEM contexts. | | | | |
| **A (Greatly exceeds expectations)** | **B (Exceeds expectations)** | **C (Expectation)** | **D (Slightly misses expectations)** | **E (Clearly misses expectation)** |
| Evidence of two+ problem solving decision that the student lead is ***explained***. | Evidence of two+ problem solving decision that the student lead is ***described***. | Evidence of one problem solving decision that the student lead is ***identified***. | Evidence of one problem solving decision is ***identified***. | No clear evidence of one problem solving decisions is ***identified***. |

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| **Teamwork:** 5.7.1: will work individually or in teams to solve problems in STEM contexts. | | | | |
| **A (Greatly exceeds expectations)** | **B (Exceeds expectations)** | **C (Expectation)** | **D (Slightly misses expectations)** | **E (Clearly misses expectation)** |
| Comment | Comment | Expectation | Comment | Comment |
| Student ***evaluates*** the roles and tasks undertaken by their team mates and themselves. | Student clearly ***analyses*** the roles and tasks undertaken by their team mates and themselves. | Student ***analyses*** the roles and tasks undertaken by their team mates. | Student ***explains*** some of the roles and tasks undertaken by their team mates. | Student does not clearly ***explain*** the roles of their team mates. |