



JOHN EDMONDSON HIGH SCHOOL

Assessment Notification

Faculty: Industrial Arts Course: Engineering Studies Year: 12

Assessment Task: Task 3 - Aeronautical Engineering Report

Assessment Weighting: 20% Due: Term 2 Week 10 Date: 2/07/2024

Task Type: Hand in Task In Class Task Practical Task

Outcomes assessed (NESA)
H2.2 Analyses and synthesises engineering applications in specific fields and reports on the importance of these to society H3.2 Uses appropriate written, oral and presentation skills in the preparation of detailed engineering reports H5.1 Works individually and in teams to solve specific engineering problems and prepare engineering reports
Task Description/Overview
Aeronautical Engineering Report (must be submitted on Canvas by 8:40am 2 nd July 2024)
Detailed Assessment Task Description
A Analyse the properties and applications of materials used in both the Airbus A380 and the SR-71 aircraft and make a comparison referring to their purpose and the conditions endured when in use. (Choose materials used in 5 parts of the plane when comparing). B. Discuss the sociological effects of the development of flight from 1904 to the present. C. Describe the strategies and improvements used by the aeronautical industry to address environmental issues. D. Prepare this information as a detailed Engineering Report.

Assessment Criteria		
Grade	Description	Mark Range
Outstanding (O)	Outstanding skills in analysis and research in engineering. Outstanding ability in determining suitable properties, uses and applications of materials, components and processes in engineering. Proficiency in the preparation and presentation of engineering reports.	90-100
High (H)	High ability in analysis and research in engineering. High ability in determining suitable properties, uses and applications of materials, components and processes in engineering. Proficiency in the preparation and presentation of engineering reports.	80-89
Sound (S)	Sound ability in analysis and research in engineering. Has reasonable ability in determining suitable properties, uses and applications of materials, components and processes in engineering. Proficiency in the preparation and presentation of engineering reports.	60-79

Basic (B)	Basic ability in analysis and research in engineering. A basic ability in determining suitable properties, uses and applications of materials, components and processes in engineering. Average preparation and presentation of engineering reports.	30-59
Limited (L)	Limited ability in analysis and research in engineering. Struggles to determine suitable properties, uses and applications of materials, components and processes in engineering. Unsatisfactory report.	0-29

Satisfactory completion of courses

A course has been satisfactorily completed, when the student has:

- Followed the course developed/endorsed by the NSW Educational Standards Authority (NESA)
- Applied himself/herself with diligence and sustained effort to the set tasks and experiences provided in the course.
- Achieved some or all of the course outcomes



John Edmondson High School

Industrial Arts Faculty

Assessment Cover Sheet

Name _____ Class _____

Title of Assessment **Engineering Studies - Aeronautical Engineering**

Date of Task distributed **18/6/2024 Term 2, Week 8**

Date to submit Task **Term 2, Week 10 on 2nd July, 2024**
(must be submitted on Canvas by 8:40am 2nd July 2024)

Component Value

20%

Result

100

Comment _____

RECEIPT OF ASSESSMENT

(This section is to be retained by you as a record of submission of your assessment task)

Name _____ Class _____

Title of Assessment **Engineering Studies - Aeronautical Engineering**

Submission Date ____/____/____

Teacher _____

(Signature)

HSC Engineering Studies Assessment Task 1

Aeronautical Engineering – Engineering Report

Due Date: Term 2, Week 10, on 27th June, 2023

Assessment Outcomes

A student:

H2.2 Analyses and synthesises engineering applications in specific fields and reports on the importance of these to society

H3.2 Uses appropriate written, oral and presentation skills in the preparation of detailed engineering reports

H5.1 Works individually and in teams to solve specific engineering problems and prepare engineering reports

Assessment Components

- A. Analyse the **properties** and **applications** of materials used in the Airbus A380 **and** the SR-71 aircraft.
 - B. Discuss the **sociological** effects of the development of flight from 1904 to the present.
 - C. Describe the **strategies** used by the aeronautical industry to address **environmental** issues.
 - D. Prepare a detailed Engineering Report as per guidelines.
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- A.** Analyse the **properties** and **applications** of materials used in the Airbus A380 **and** the SR-71 aircraft.
 - You will need to research the range of materials used in both aircraft, including newly developed materials, metals, polymers and composites. Choose at least 5 significant parts from each, so that a comparison can be made.
 - Detail the specific properties of each material.
 - Explain where these materials are applied in the aircraft and the reasons why they were chosen.
 - B.** Discuss the **sociological** effects of the development of flight from 1904 to the present.
 - Positive & negative (advantages and disadvantages) effects on society since the Wright brothers' first flight in 1904.
 - C.** Describe the **strategies** used by the aeronautical industry to address **environmental** issues.
 - Strategies may include engineering solutions, financial solutions and so on.
 - Issues may include noise, effluent, resource use, waste, recycling etc.
 - D.** Prepare a detailed Engineering Report as per guidelines.
 - The assessment must be done on a computer, using Microsoft office or equivalent.
 - The report should have a title page, contents page, headings, sub-headings and page numbers.
 - The report must have adequate and appropriate use of labelled **diagrams** and **pictures** with figure captions
 - The assessment must be free of spelling and grammatical errors.
 - The assessment must have adequate & accurate bibliographic **references** for all sections of the assessment.
 - The bibliography must be presented on a separate page at the end of the assessment (at least 6 references).

Aeronautical Engineering – Engineering Report Marking Criteria			Marks Achieved
			TOTAL
			/100
A. Materials analysis	Accurate & detailed documentation of the research, properties and applications of a range of materials. 5 parts chosen and their materials compared.	25-40	/40
	Documentation of most of the properties and applications of materials	15-25	
	Inadequate research and documentation	0- 15	
B. Sociological effects	Accurate & detailed documentation of all points	15 - 20	/20
	Documentation of most points	8 - 15	
	Documentation of few points	0- 7	
C. Environmental strategies	Accurate & detailed description of a range of relevant strategies 15-20		/20
	Accurate & reasonable description of some strategies	8-15	
	Inaccurate or poor description of only a few strategies	0- 7	
D. Presentation & Communication	Presentation follows report guidelines and is well laid out	0 - 10	/20
	Communication uses diagrams, pictures & is well referenced	0 - 10	

Comments:

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