

STUDENT NAME:

STUDENT ID. NO.:

COURSE NAME: 314SE Aerospace Technology II

BATCH: BEng AE/AV FEB 16

ISSUE DATE: 05/03/2017

SUBMISSION DATE: 02/04/2017

ASSIGNMENT (LAB) COVER SHEET

OUTCOMES (Please tick the relevant outcomes)

	Critically review, explore and apply the principles of helicopter flight, the theory of supersonic air flow and the phenomena governing space flight.
X	Evaluate and compare the operation and purpose of different types of wind-tunnels.
	Demonstrate an appreciation of a range of aircraft systems and the mathematics that govern their operation.
	Compare the operation of engine ancillary systems e.g., fuel systems, steering systems, thrust reversers

RESULT

Submission requirement:	OVERALL
1 Signed cover sheet	
2 Assignment report	
3 PowerPoint Presentation	
4 Soft / Hard copy of turnitin report	
Assesors feedback:	

I certify that the work contained within this assignment is all my own work and referenced where required.

Student Signature:

Date:

Feedback Received:

Student Signature:

Date:

Assessors Name: OC & KK

Signature

Date:



School of Engineering
Aerospace Technology II – Wind Tunnel Assignment

- Unit Code/Level 314SE
- Outcome 2 **Wind Tunnel**

You are a chief engineer at an engineering design company and for an upcoming research and development project your manager asked you to conduct a study listing the types of wind tunnels (List a minimum of three types i.e. subsonic, transonic, etc.), in which cases each is used and the possible advantages and disadvantages that each type has.

- Please present your research results in a short report and utilize illustration to aid in the understanding of the reader.

After the research you conducted, the company decided to purchase a low speed open circuit wind tunnel as it was the best type that fits the research requirements.

You were required by your manager to conduct two experiments that will present an idea of how wind tunnels operate and what sort of results it can generate.

- Experiment 1: Wind tunnel calibration
- Experiment 2: NACA 2412 Airfoil with variable flap

Report

Upon the completion of the experiments you are required to write a detailed report that contains the following elements:

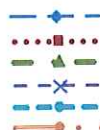
1. Introduction
2. Objectives
3. Theory
 - 3.1. Experiment 1 ex. Pitot tube, boundary layer, etc.
 - 3.1. Experiment 2 ex. Airfoils, high lift devices, etc.
4. Instrumentation
5. Precautions & Procedure
 - 5.1. Precautions
 - 5.2. Experimental Procedure
 - 5.2.1. Experiment 1
 - 5.2.2. Experiment 2
6. Results and Discussion
 - 6.1. Experiment 1
 - 6.2. Experiment 2
7. Sources of Error
8. Conclusion
9. References

Note:

- Please insure to use the following guidelines in your report writing:

Font type	Arial
Font size	12
Line spacing	1.5 lines
Alignment	Justify

- Please use different types of lines and points in your plots as follows:



Plagiarizing:

Plagiarism is defined as the presentation of another person's work as your own. This includes copying from books without referencing the material or copying from another student's work.

Late Assignments

If your assignments are not submitted on time and you have not received an extension, you will normally be penalized 10% to 20% of the total mark for the assignments. (Please check the student's handbook)

Format for the assignment:

- *Use fonts (only one type) that are easy to read and do not complicate the text*
- *Line spacing should be 1.5 times*
- *The assignment should always have the cover page which is given by the instructor*
- *All details regarding name and signature must be filled in*
- *Assignments should be done on A4 size paper*
- *Every page should have a footer which details the assignment name, your name and the page number*
- *The first page should be the index or contents page with the page numbers*
- *The next page should have the introduction which is what the assignment is about and what you are planning to write. This can be brief*
- *Next comes the body of the assignment. Clear drawings should be included in the body*
- *References may be used from text books and the internet or other sources. However references have to be made for the information used. This may be done by annotating each copied paragraph / picture and listing them on the last page under the title reference.*
- *A conclusion should be presented at the end followed by the reference page if used.*
- *CD of the assignment should be presented which will be returned if requested after verification.*
- *An oral will be conducted at a suitable date to ensure that you have understood what you have presented.*
- **ASSIGNMENTS ARE VERY IMPORTANT IN YOUR FINAL GRADING SO DO ENSURE THE DEADLINES SET ON THE COVERSHEET OR BY YOUR INSTRUCTOR ARE MET.**

Grading as follow:

➤ Index:	5 %
➤ Introduction:	10%
➤ Reference:	10%
➤ Layout:	5%
➤ Conclusion:	10%
➤ Theory	10%
➤ Task:	50%

Total:	100%
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