

Aerospace Group Project Design

Uav Initial Design Report

Issued by the team members of Group13:

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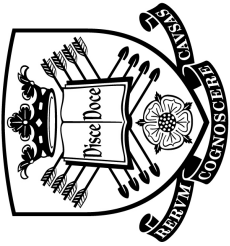
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University of Sheffield

31th November 2017

Declaration Page



The
University
Of
Sheffield.

Aerospace
Engineering.

AER385: Aerospace Group Design

Group13:

Surname	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7
Forename							
Reg. No.							
Signature							
Technical Area	a						
	b						
	c						
	d						
	e						
	f						

*Note that each Technical Area is as outlined in the Handbook in Section 2.1. A percentage should be allocated to each student for each of the applicable Technical Areas.

**No total for any one student should exceed 100%.

***By signing this sheet, you acknowledge your satisfaction with all group members percentages of allocation

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1 Aims and Objectives

2 Project Planning

2.1 Work Breakdown Structure

2.1.1 An Introduction to the Team

Thomas Osland	
	Role: Description:
Ana-Maria Badilita	
	Role: Description:
Hamza Bouhouch	
	Role: Description:
Arthur Cunningham	
	Role: Description:
Tobias Sandin	
	Role: Description:
Samuel Vazquez	
	Role: Description:

Table 1: Group13 Team Members Profiles

2.1.2 Schedule

The project can be divided into 2 main phases; the table below shows the target tasks for the present semester and the current status of the key activities that are currently finalised, in progress or up-coming. The Gantt Chart below explains some of the key activities taking place during the current stage and the people in charge of them.

	Team Member	Start Date	End Date	Timeline	Status	
UAV PROJECT Discuss various UAV designs. Finalise design concept Allocate work, produce schedule and budget for semester 1	All	13/10/17	15/12/17		Active	
	All	13/10/17	20/10/17		Complete	
	Hamza	27/10/17	3/11/17		Complete	Complete=
	Ava & Tobi	3/11/17	10/11/17		Complete	Upcoming future dates=
	Ava	3/11/17	17/11/17		Complete	Upcoming past dates =
	Arthur & Hamza	10/11/17	24/11/17		Complete	
	Tom & Sam	10/11/17	24/11/17		Complete	
	Improve wing design post-analysis	10/11/17	24/11/17		Complete	
	Thrust/Power Calculations - Motor Choice	13/11/17	24/11/17		Complete	Upcoming current dates =
	Ground station - selection and programming	13/11/17	24/11/17		Complete	
	Avionics selection	13/11/17	24/11/17		Complete	
	Decide upon Geometry, Dimensions	17/11/17	24/11/17		Complete	Active=
	CAD Parts - main geometries	17/11/17	30/11/17		Complete	Yellow
	Fasteners/Joints Selection	17/11/17	30/11/17		Complete	
	List of materials/Report Editing	24/11/17	30/11/17		Complete	
	Order Materials	24/11/17	30/11/17		Complete	
	Submit Assignment 1	30/11/17	01/12/17		Upcoming	
	Avionics configuration schematics	01/12/17	08/12/17		Upcoming	
	Finalise preliminary CFD	01/12/17	08/12/17		Upcoming	
	Dimensional model Lock-down	07/12/17	07/12/17		Upcoming	
	Presentation preparation	01/12/17	08/12/17		Upcoming	
	Assignment 2 presentations	08/12/17	08/12/17		Upcoming	
	Submit Assignment 2	08/12/17	15/12/17		Upcoming	
	Peer Assessment 2	15/12/17	15/12/17		Upcoming	
	Set targets for	15/12/17	15/12/17		Upcoming	
			Distance into project			

2.2 Budget

3 Initial Design

3.1 Conceptual Design

3.2 Preliminary Design Review

3.2.1 Aerodynamics

3.2.2 Propulsion and Electrical Power

3.2.3 Materials and Structure

3.2.4 Ground Station and Communication

3.2.5 Control - Autopilot\Autostabilisation

3.2.6 Sensors, Actuators and Communicators

4 Conclusions Upon the Preliminary Design

A Apendix