

INSTITUTE OF HIGHER EDUCATION AND RESEARCH (Osciared as Deemed-to-be-University under section 3 of UGC Act 1856) BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENT OF AERONAUTICAL ENGINEERING



Dr. M. Sundararaj M.E. Ph.D **Head**

03/02/2015

Ref No:Cir/Aero/2015/010

CIRCULAR

This is to intimate the students that Value Added Program titled "Design of fixed wing Unmanned Aerial Vehicles" is scheduled to be conducted from 15/02/2015. The course will be for a duration of 30 hours and will be conducted during weekends. Further Details can contact the Course Coordinator Mr. M.Syedhaleem Assistant Professor Department of Aeronautical Engineering.

HoD-Aero

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No.173, Agharam Road, Selaiyur, Chennai-600073. 290125 /491-9840844425 🕲 hodaero**gist**jarathuniv.ac.in - 🚇 www.bharathuniv.ac.in



Value Added Course

Courses on Design of fixed wing Unmanned Aerial Vehicles

Objective:

This course introduces the initial designing and sizing process for rapidly growing xed – wing UAV technology, integrated with its performance and stability analysis and prototype testing.

Course Co-ordinator: M.Syedhaleem

COURSE LAYOUT

SNO	Date	Course Content	Duration	Instructor
		Introduction to xed-wing UAVs,		Mr.M.Ramakrishna
		Introduction to Design, Basic Design		Assistant Professor
		Parameters.		Tagore Engineering
1	07/02/2015 (FN)		3 Hours	College Chennai
		Basic Design Parameters contd., Design		Mr.M.Ramakrishna
		Algorithm: Case Study, Design		Assistant Professor
2	07/02/2015 (AN)	Algorithm: Mission Requirements.	3 Hours	Tagore Engineering
		Design Algorithm: Feasible Design		Mr.M.Ramakrishna
		Parameters, Conguration Layout:		Assistant Professor
	001000000000000000000000000000000000000	Airfoil Selection Conguration		Tagore Engineering
3	08/02/2015 (FN)	- Thron beleenon congulation	3 Hours	College Chennai
				Mr.M.Ramakrishna
		Layout: Planform Geometry selection		Assistant Professor
		Edyout. Flamorin Geometry selection		Tagore Engineering
4	08/02/2015 (AN)		3 Hours	College Chennai
				Mr.M.Ramakrishna
		Weight and CG Estimation Analytical		Assistant Professor
		Parameter Estimation		Tagore Engineering
5	14/02/2015 (FN)		3 Hours	College Chennai
				Mr.M.Ramakrishna
		Analytical Parameter Estimation contd.		Assistant Professor
		i mary tour i arameter Estimation conta.		Tagore Engineering
6	14/02/2015 (AN)		3 Hours	College Chennaí
				Mr.M.Ramakrishna
		Performance and Stability Analysis		Assistant Professor
		contd.		Tagore Engineering
7	15/02/2015 (FN)		3 Hours	College Chennai

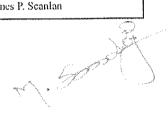




				Mr.M.Ramakrishna Assistant Professor
		Simulation, Detailed Sizing		Tagore Engineering
8	15/02/2015 (AN)		3 Hours	College Chennai
				Mr.M.Ramakrishna
	Estimation of inertial properties using			Assistant Professor
		3D modelling, Prototype Fabrication		Tagore Engineering
9	21/02/2015 (FN)	<u> </u>	3 Hours	College Chennai
		Wind Property Agreedynamic		Mr.M.Ramakrishna
	Wind Tunnel Testing, Aerodynamic		Assistant Professor	
		Characterization through Wind Tunnel		Tagore Engineering
10	22/02/2015 (AN)	Testing	3 Hours	College Chennai

	BOOKS AND REFERENCES
I	Introduction to Flight by John D. Anderson
2	Performance, Stability, Dynamics, and Control of Airplanes by Bandu N. Pamadi
3	Aircraft performance and design by John D. Anderson
4	Unmanned Aircraft Design A review of fundamentals by Mohammad H. Sadraey
5	Aircraft Design : A Conceptual Approach by Daniel P. Raymer
6	Unmanned Aircraft Systems: UAVs Design Development and Deployment by Reg Austin
7	Small Unmanned Fixed-wing Aircraft Design: A Practical Approach by Andrew J. Keane and James P. Scanlan











		Department of Aeronautical Engineering					
	Value Added Course						
	Course onDesign of fixed wing Unmanned Aerial Vehicles						
SNO	Reg NO	List of students Registered on 15.02.2015					
1	U14AE001	Name of the Student ABDULLAH KHAN					
2	U14AE003						
3	UI4AE007						
4	U14AE009						
5	U14AE011						
6	U14AE014						
7	U14AE015	The state of the s					
8	U14AE018						
9	UI4AE019	The state of the s					
10	U14AE020						
11	U14AE047	The state of the s					
12	U14AE050						
13	U14AE051						
14	U14AE052						
15	U14AE054						
16	U14AE058						
17	UI4AE059						
18	U14AE060						
19	U14AE067	B.SATHISH KUMAR					
20	U14AE068	SATHIYA SEELAN.E					
21	U14AE069	SAYAN BHATTACHARJEE					
22	U14AE071	SELVAGANAPATHY R					
23	U14AE072	SHAIK KHADER SHARIEF					
24	U14AE074	SHANMUGANANDAN.M					
25	U14AE076	SIDHAREDDY MANIGANDAN					
26	UI4AE077	SIMGAVARJULA VEDAVYAS					
27	U14AE078	SINGANA SRI ARAVIND					
28	U14AE082	THOTA. MANIKANTA ANKARAO					
29	U14AE083	THUPAKULA DEVA KRISHNA					
30	U14AE084	VENKATASUBRAMANIAN.I					
31	U14AE087	VIJAY RAJ SIVANGI					
32	U14AE088	VISHWATEJA KUMAR REDDY.V					
33	U14AE089	YALAMARTHI TULASI RAM					
34	U14AE091	YOGRAJ SONAR					
35	U14AE502	SYED SHAFATH R					
36	U14AE702	CLEVIN ALBERT NEONGNENG					
37	U14EC002	AARTHI,P	.2"				





38	U14EC010	AMARJEET KUMAR
39	U14EC011	R AMULYA
40	U14EC012	MAHAMKALI VENKATA SAI NANDAANIRUDH.
41	U14EC017	ASARA ANITH RAO
42	U14EC024	CHANDRALEKA.K
43	U14EC025	CHEKURI.VENKATA MAHESH
44	U14EC031	DEEPAK.A
45	U14EC032	DESHI VENKATESH
46	U14EC039	GADE MALLA REDDY
47	U14EC040	GARAGA SIVA SURYA DEEPAK
48	U14EC042	GOURU VENKATA SAI PRAKASH
49	U14EC044	GUJJARI SHIVADURGA PRASAD
	Higher Edward	







Department of Aeronautical Engineering Value Added Course

Courses on Design of fixed wing Unmanned Aerial Vehicles



Our Instructor Mr.M.Ramakrishna Assistant Professor Tagore Engineering College Chennai" is Handling the session to our registered participants on Design of fixed wing Unmanned Aerial Vehicles



Date							
Course							
Student Name (option	nal)A	OAR S.II.	.B.S		• •		
Student ID (optional) .	u	ILLAEO	0.3	***************************************	••		
a) Helpful and knowledg	eable staff	:					
Very satisfied	Satis	sfied	Sor	mewhat satisfied		Not satisfied	
b) Staff friendliness: Very satisfied	Satis	sfied	Sor	mewhat satisfied	- According	Not satisfied	
C) Ease of registration: Very satisfied	∑ Satis	sfied	Soi	mewhat satisfied		Not satisfied	
2. Is there anything we o	an improv	e with our re	egistration	ı process?			
	Ν	o rud		***************************************		***************************************	
B. The Training Faci	lity						
3. How satisfied were yo	ou with the	training faci	ility on the	e follow			
a) Cleanliness of facility Very satisfied	: Satis	sfied	So	mewhat satisfied	Windows V	Not satisfied	
b) Comfort of training ro	oom: Satis	sfied	So	mewhat satisfied	11	Not satisfied	
4. Is there anything we can improve with any of the above?							
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Date . 22 2 15	•••		
Course Dasign	of Eixed w	Ang Unmanned f Sonas	perial vehicles
Student Name (option	nal) 12.9.a.a.j	Sona?	
a) Helpful and knowledg	eable staff:		
Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
b) Staff friendliness: Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
C) Ease of registration: Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
2. Is there anything we c	an improve with our reg	istration process?	
XIL			
B. The Training Faci	lity		
3. How satisfied were yo	ou with the training facilit	y on the follow	
a) Cleanliness of facility Very satisfied		Somewhat satisfied	Not satisfied
b) Comfort of training ro	oom: Satisfied	Somewhat satisfied	Not satisfied
4. Is there anything we d	can improve with any of t	the above?	
No			









Dr. M. Sundararaj M.E. Ph.D Head

04/01/2016

Ref No:Cir/Aero/2016/003

CIRCULAR

This is to intimate the students that Value Added Program titled "Course on Quadcopter Design " is scheduled to be conducted from 11/01/2016. The course will be for a duration of 30 hours and will be conducted during weekends. Further Details can contact the Course Coordinator Mr. S.R. Vimalraj Assistant Professor, Department of Aeronautical Engineering.

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Value Added Course Course on Quadcopter Design

Objective:

This course introduces the designing and sizing process (Simulation/Experimental) for fixed ? wing UAV technology, integrated with its performance and stability analysis (Static & Dynamic) and prototype testing

Course Co-ordinator: S.R.Vimalraj

COURSE LAYOUT

SNO	Date	Course Content	Duration	Instructor
111	11/01/2016 (FN)	Review of the concepts of Quadcopter Design	3 Hours	Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited
2	16/01/2016 (FN)	Understanding the static stability of various UAVs.	3 Hours	Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited
3	16/01/2016 (AN)	Significance of location of Neutral point	3 Hours	Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited
4	17/01/2016 (FN)	Centre of gravity for a stable flight	3 Hours	Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited
5	17/01/2016 (AN)	Approach for wing design and airfoil selection with examples	3 Hours	Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited
6	23/01/2016 (FN)	Tail sizing, control surface sizing and significance of tail volume ratio with examples	3 Hours	Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited
7	23/01/2016 (AN)	Developing subroutine for design process		Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited











	Department of Aeronautical Engineering						
	Value Added Course						
	Course on Quadcopter Design						
	List of students Registered on 11.01.2016						
SNO	Reg NO	Name of the Student					
11	U15AE004						
2	U15AE008	CHILAKALAPUDI YASHWANTH TEJA					
3	U15AE012						
4	U15AE022	·					
5	U15AE014						
6	U15AE023	KOLA JOHN HANNA JAYASHREE					
7	U15AE031	PARASA MAHENDRA					
8	U15AE034						
9	U15AE040	SANGEETHA N					
10	U15AE041	SANJAY V					
11	U15AE047	VALMIKI MANOJ KUMAR					
12	U15AE050	YANAMADHALA AVINASH CHOWDARY					
13	U15AE702	MOHD AMIR					
14	U15AE062	SANDEEP G M					
15	U15AE055	VASU P					
16	U15AE053	PALLEKONDU SIRISHA					
17	U14AE059	PRAGATHY.D					
18	U14AE060	PRATHAP L					
19	U14AE067	B.SATHISH KUMAR					
20	U14AE068	SATHIYA SEELAN.E					
21	U14AE069	SAYAN BHATTACHARJEE					
22	U14AE071	SELVAGANAPATHY R					
23	U14AE072	SHAIK KHADER SHARIEF					
24	U14AE074	SHANMUGANANDAN.M					
25	U14AE076	SIDHAREDDY MANIGANDAN					
26	U14AE077	SIMGAVARJULA VEDAVYAS					
27	U14EC002	AARTHLP					
28	U14EC010	AMARJEET KUMAR					
29	U14EC011	R AMULYA					
30	U14EC012	MAHAMKALI VENKATA SAI NANDAANIRUDH.					
31	U14EC017	ASARA ANITH RAO					
32	U14EC024	CHANDRALEKA.K					
33	U14EC025	CHEKURI.VENKATA MAHESH					
34	U14EC031	DEEPAK.A					
35	U14CS171	SHARSHI KANT PRASAD					
36	U14CS186	SURIYA.A.					

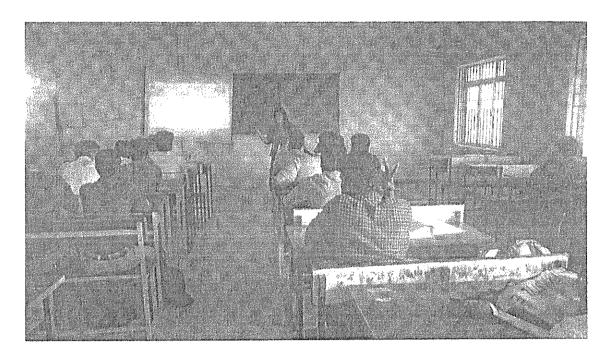








Value Added Course
Course on Quadcopter DesignVehicles



Our Instructor 'Ms.Kavya, Managing Director, Big Bang Boom Solutions private limited" is Handling the session to our registered participants on Quadcopter DesignVehicles

10 5 5 F



Date 23/.0.1/2016							
Course	Course QuAD colten Denigm						
Student Name (option	nal)SUR! 7.A	A					
Student ID (optional) .	why Cs	3.18.6					
a) Helpful and knowledg	eable staff:						
Very satisfied	Satisfied	Somewhat satisfied	Not satisfied				
b) Staff friendliness: Very satisfied	☑ Satisfied	Somewhat satisfied	Not satisfied				
C) Ease of registration: Very satisfied	Satisfied	Somewhat satisfied	Not satisfied				
2. Is there anything we o	an improve with our regi	istration process?					
	donline Registra	hio ~					
B. The Training Faci	llity						
3. How satisfied were yo	ou with the training facilit	y on the follow					
a) Cleanliness of facility Very satisfied	: Satisfied	Somewhat satisfied	Not satisfied				
b) Comfort of training ro	oom: Satisfied	Somewhat satisfied	Not satisfied				
4. Is there anything we can improve with any of the above?							
***************************************	chod.		*******				

Dateನಿ.ತಿ.ಸಿ.ಸಿ.ಟ							
CourseV.A.P.	Course VAP ON CONADCOPten Design						
Student Name (option	nal)VA.su?						
Student ID (optional) .	U 15AE 0	55					
a) Helpful and knowledge	eable staff:						
Very satisfied	1	Somewhat satisfied	Not satisfied				
very sausiled	, oatisfied	Oomewhat satisfied	140t Satisfied				
b) Staff friendliness:			[
Very satisfied	Satisfied	Somewhat satisfied	Not satisfied				
C) Ease of registration:	1						
C) Ease of registration: Very satisfied	Z Satisfied	Somewhat satisfied	Not satisfied				
2. Is there anything we c	an improve with our regi	stration process?					
Ne	ud move Prog	som co-ordition					
	v						
B. The Training Faci	III						
3. How satisfied were yo	u with the training facilit	y on the follow					
a) Cleanliness of facility: Very satisfied	: Satisfied	Somewhat satisfied	Not satisfied				
b) Comfort of training ro Very satisfied	oom: Satisfied	Somewhat satisfied	Not satisfied				
L Very satisfied	Causieu	Oomownat Sausinea	inot battoriou				
4. Is there anything we can improve with any of the above?							
Regularly we need this type of Program							









Dr. M. Sundararaj M.E. Ph.D. Head

05/01/2016

Ref No:Cir/Aero/2016/005

CIRCULAR

This is to intimate the students that Value Added Program titled "Course on RC Aircraft Design " is scheduled to be conducted from 15/02/2016. The course will be for a duration of 30 hours and will be conducted during weekends. Further Details can contact the Course Coordinator Dr. M.Sundararaj Professor and Head, Department of Aeronautical Engineering.

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No 173, Agharam Road, Selaiyur, Chennal-600073.







Value Added Course Course on RC Aircraft Design

Objective:

This course will presents the entire process of aircraft conceptual design- from requirements definition

to initial sizing, configuration layout, analysis, sizing, optimization, and trade studies.

Course Co-ordinator: Dr.M.Sundararaj

COURSE LAYOUT

SNO	Date	Course Content	Duration	Instructor
טאַט	Date			Ms.Vimalambigai,
		Overview of the Design Process, Airfoil		Design Executive, Big
		and Geometry Selection, Thrust-to-		Bang Boom Solutions
	15/02/2016 (FN)	Weight Ratio and Wing Loading	3 Hours	private limited
1	(3/02/2010 (111)			Ms.Vimalambigai,
		Initial Sizing, Control-Surface Sizing,		Design Executive, Big
_	20/02/2014 (END	Configuration Layout	3 Hours	Bang Boom Solutions
2	20/02/2016 (FN)	1		Ms. Vimalambigai,
		Aerodynamic Considerations, Structural		Design Executive, Big
		Considerations, Vulnerability		Bang Boom Solutions
_	20/02/2016 (AN)	Considerations	3 Hours	private limited
3	20/02/2016 (AN)			Ms.Vimalambigai,
				Design Executive, Big
		Crew Station, Passengers, and Payload		Bang Boom Solutions
	21/02/2014 (END)		3 Hours	private limited
4	21/02/2016 (FN)			Ms.Vimalambigai,
	1			Design Executive, Big
		Propulsion and Fuel System Integration, Fu	el	Bang Boom Solutions
		System, Landing Gear Arrangements	3 Hours	private limited
5	21/02/2016 (AN)	System, Landing Gear Arrangements		Ms.Vimalambigai,
		Step-by-Step Development of a New		Design Executive, Big
		Design, Aerodynamics, Propulsion		Bang Boom Solutions
		Design, Aerodynamics, Proposition	3 Hours	
6	27/02/2016 (FN)			Ms.Vimalambigai,
	1	Structures and Loads, Weights, Group		Design Executive, Big
1		•		Bang Boom Solutions
		Weights Method	3 Hours	
7	27/02/2016 (AN)		10 110011	·

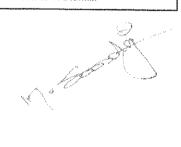




8	28/02/2016 (FN)	Stability, Control, and Handling Qualities, Longitudinal Static Stability and Control, Lateral-Directional	3 Hours	Ms.Vimalambigai, Design Executive, Big Bang Boom Solutions private limited
9	28/02/2016 (AN)	Performance and Flight Mechanics, Equations of Motion, Operating Envelope	3 Hours	Ms.Vimalambigai, Design Executive, Big Bang Boom Solutions private limited
10	05/03/2016 (FN)	Cost Analysis, Operations and Maintenance Costs, Aircraft and Airline Economics	3 Hours	Ms.Vimalambigai, Design Executive, Big Bang Boom Solutions private limited

	BOOKS AND REFERENCES
1	Aircraft performance and design by John D. Anderson
2	Unmanned Aircraft Systems: UAVs Design Development and Deployment by Reg Austin
3	Small Unmanned Fixed-wing Aircraft Design: A Practical Approach by Andrew J. Keane and James P. Scanlan











		Department of Aeronautical Engineering		
		Value Added Course		
		Course on RC Aircraft Design		
		List of students Registered on 15.02.2016		
SNO	Reg NO	Name of the Student		
1	U15AE004	ARAVINDAN A		
2	U15AE022	KM JUHI GUPTA		
3	U15AE023	KOLA JOHN HANNA JAYASHREE		
4	U15AE034	PULUSU PARDHU SREE		
5	U15AE041	SANJAY V		
6	U15AE047	VALMIKI MANOJ KUMAR		
7	U15AE050	YANAMADHALA AVINASH CHOWDARY		
8	U15AE702	MOHD AMIR		
9	U15AE062	SANDEEP G M		
10	U15AE055	<u> </u>		
11	U14AE004	AFSANA BANU		
12	U14AE006	ANAND.M		
13	U14AE008	ANBU KUMAR.P		
14	U14AE011	BANDARU SANTHOSH KUMAR		
15	U14AE015	BALINENI ANVESH		
16	U14AE018	BONALA KAMSALA RAGHAVENDRA		
17	U14AE022	M.DEVA		
18	U14AE024	GANGIPELLI VINEETH		
19	U14AE025	GODDU RAMESH		
20	U14AE027	GUMMADI SANTOSH KUMAR		
21	U14AE028	JAGANRAJ		
22	U14AE030	JAVEED THAMEEM ANSARI.M.S		
23	U14AE035	KAMAGONDA PRASAD		
24	U14AE041	MARIAM AFRAH.A		
25	U14AE043	MOHDREHAN		
26	U14AE044	M UDAY TEJA		
27	U14AE046	M KRISHNA VAMSI		
28	U14AE047	NAKKALA KARUNAKAR		
29	U14AE049	NAND KISHOR BHARTI		
30	U14AE051	NAVEEN KUMAR P		
31	U14AE053	SUSMITHA PADAMATI		
32	U14MT005	BALAJI.P		
33	U14MT014	PREMKUMAR.V		
34	U14MT022	SHALIN MORAY.S		
35	U14MT026	VIGNESH.R		
36	U14EC002	AARTHI.P		
37	U14EC006	ADDUGALA RAMA DEVI		





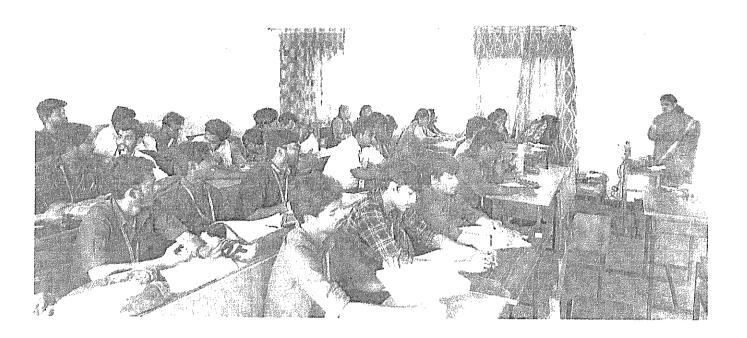
38	U14EC007	ADHARSH.A .I	
39	U14EC010	AMARJEET KUMAR	
40	UI4EC011	R AMULYA	
41	U14EC013	ANKIT KAUSHAL	
42	U14EC024	CHANDRALEKA.K	
43	U14EC025	CHEKURI.VENKATA MAHESH	
44	U14EC026	CHINTA ANVESH	
45	U14EC027	DAMMALAPATI RAHUL DIVYESH	
46	U14EC028	DEBAJIT HAZARIKA	
47	U14EC063	KATTA ARUN REDDY	
48	U14EC104	PEDINEEDI VIJAYA BHARGAVI	w lw.
	S Nigher Education of Aeronautical Enggs		







Department of Aeronautical Engineering Value Added Course Course on RC Aircraft Design



Our Instructor 'Ms.Vimalambigai, Design Executive, Big Bang Boom Solutions private limited" is Handling the session to our registered participants on Course on RC Aircraft Design

W. Comment



Date .05-03-2016				
Course RC Piverall Design.				
Student Name (option	ial)Mr. Dev A			
Student ID (optional) .	UIHAE O22		•	
a) Helpful and knowledg	eable staff:			
Very satisfied	Satisfied	Somewhat satisfied	Not satisfied	
b) Staff friendliness: Very satisfied	Satisfied	Somewhat satisfied	Not satisfied	
C) Ease of registration: Very satisfied	Satisfied	Somewhat satisfied	Not satisfied	
2. Is there anything we can improve with our registration process?				
No god only				
B. The Training Facility				
3. How satisfied were you with the training facility on the follow				
a) Cleanliness of facility Very satisfied	: Satisfied	Somewhat satisfied	Not satisfied	
b) Comfort of training ro		Somewhat satisfied	Not satisfied	
4. Is there anything we can improve with any of the above?				
No god only				

Date05.10.31.2016						
Course RC AIRCRAFT DESIGN						
Student Name (option	al)AAR.TH	1. P	•			
Student ID (optional)	Student ID (optional)					
a) Helpful and knowledge	eable staff:					
Very satisfied	Satisfied	Somewhat satisfied	Not satisfied			
b) Staff friendliness: Very satisfied	Satisfied	Somewhat satisfied	Not satisfied			
C) Ease of registration: Very satisfied	Satisfied	Somewhat satisfied	Not satisfied			
2. Is there anything we can improve with our registration process?						
	, O.					
B. The Training Facility						
3. How satisfied were you with the training facility on the follow						
a) Cleanliness of facility: Very satisfied	: Satisfied	Somewhat satisfied	Not satisfied			
b) Comfort of training ro Very satisfied		Somewhat satisfied	Not satisfied			
4. Is there anything we can improve with any of the above?						
vey vsefull						

