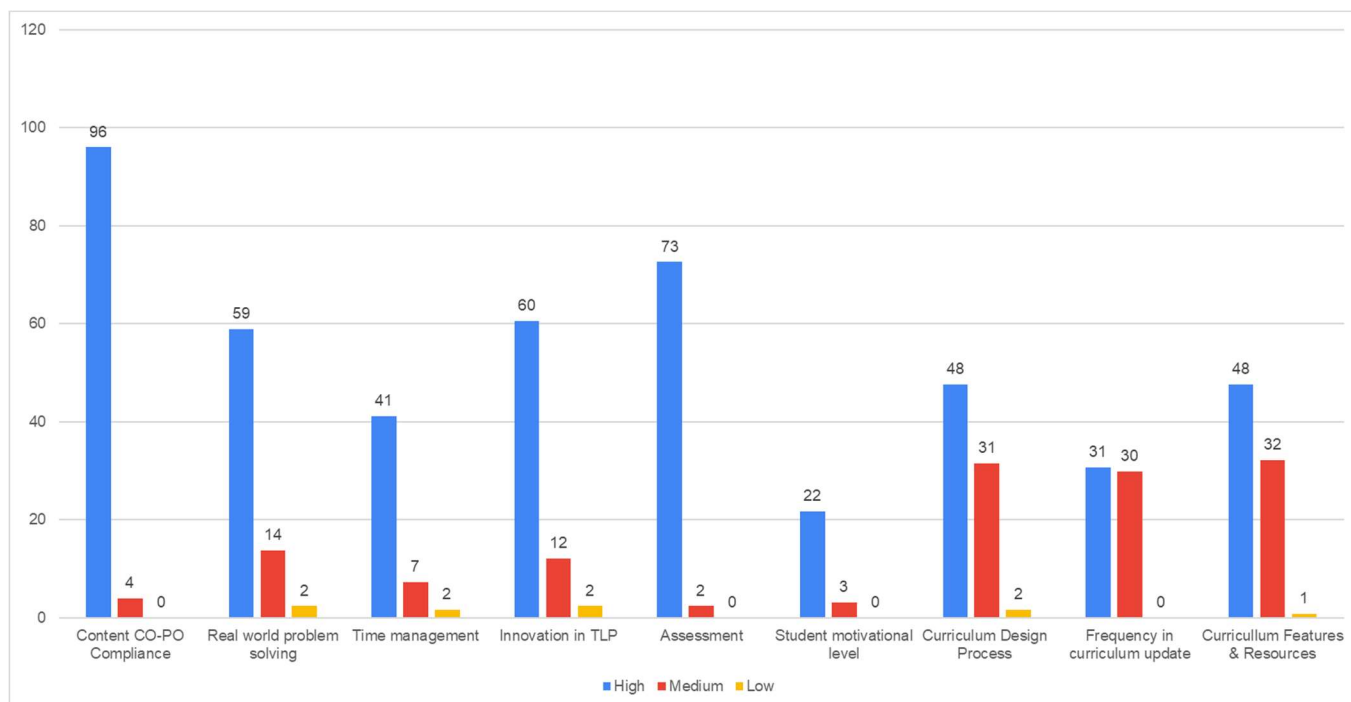




Department of Aeronautical Engineering

Feedback Analysis on Curriculum Design for Academic Year 2020-21



Inferences:

1. Stakeholders appreciated the following aspects in existing curriculum & its design process

Content CO-PO Compliance
Real world problem solving
Assessment
Student motivational level
Curriculum Design Process

2. Stakeholders demands improvements in following aspects in existing curriculum & its design process

Time management
Frequency in curriculum update
Curriculum Features & Resources

3. Stakeholders recommended following features to be included in curriculum

Knowledge	Tools	Skills
Aviation	Root cause Analysis - 5 why and fish bone analysis, Training matrix to track the training record of each and every individual	Legal requirements and compliance of local country, Job safety Analysis, investigate Accidents
Product Development	CAD software's like Catia, Analysis like FEM, CFD, CHT software's & Open wares	NDT, Basic engineering, Structure & composites, Design, Technical Documentation, Engineering Problem Solving, Customer support on various aviation areas.
UAV development	Python, Open CV, SolidWorks, Matlab, Mission Planner , DJI Tools, Python, Pixhawk, GIS, GCS	Scripting, Design, Mapping, Autopilot design, spraying
Manufacturing	GD&T, Design for Manufacturing, Tolerance stack up analysis, Laser cutting, CNC coding, 3D printing	People management, Logical reasoning, Process engineering, Tooling design, Meteorology, Manufacturing technologies and processes, Mathematics
Robotics	Coding, Embedded, ML	Automation
Defense	AI, 3D printing, drone technology	Satellite technology, navigation,
Management	Fish bone, pareto	Six Sigma

Recommendations:

1. Faculty members required to be submit topic mapping from different peer institutes to understand required topics & time taken to deliver the content
2. Students feedback indicates their involvement is less in curriculum design. It is recommending to include student representatives & create awareness about curriculum design process to students.
3. Most of the students felt there is a gap in proper learning resources. Faculty members shall teach students about self-learning and access of online library.
4. The new courses addressing robotics, UAV design, manufacturing shall introduce to the existing regulation and upcoming regulation students.
5. The software's, composites & coding shall incorporate as activities in appropriate courses. It is recommended to follow Project Based Learning and a committee shall constitute to implement PBL based curriculum for upcoming regulation.
6. Professional software's & open wares shall include as separate course to improve their proficiency level. GD & T shall be addressed in these courses.
7. Management related aspects shall practice in projects. The rubrics shall be developed to address these areas.
8. New specialization / programme shall evolve to address defense sector requirements.


Dr. R. Jaganraj
 Head of the Department
 Aeronautical Engineering
Vel Tech
 Rangarajan Dr. Sagunthala
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 Chennai-600 092



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R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

Department of Aeronautical Engineering

Stakeholders Feedback Analysis

Academic Year 2020-21

Criteria	High	Medium	Low
Content CO-PO Compliance	96	4	0
Real world problem solving	59	14	2
Time management	41	7	2
Innovation in TLP	60	12	2
Assessment	73	2	0
Student motivational level	22	3	0
Curriculum Design Process	48	31	2
Frequency in curriculum update	31	30	0
Curriculum Features & Resources	48	32	1

Specific Comments on Topics / Skills / Tools

	Knowledge	Tools	Skills
Alumni	Design	Catia, CFD, CHT, Openwares	3D desining
	Manufacturing	Laser cutting, CNC coding, 3D printing	Material handling, Repair technique, Composites
	Drone Development	Python, Pixhawk, GIS, GCS	Mapping, Autopilot design, spraying
	Aviation	Root cause Analysis - 5 why and fish bone analysis, Training matrix to track the training record of each and every individual	Legal requirements and compliance of local country, Job safety Analysis, investigate Accidents
Industry	Product Development	CAD softwares & openwares	NDT, Basic engineering, Structure based knowledge, Aerospace Knowledge, Design, Technical Documentation, Engineering Problem Solving, Customer support on various aviation areas.
	Design & Analysis	CAD, FEM, CFD - Softwares & Openwares	Coding techniques
	UAV development	Python, Open CV, SolidWorks, Matlab, Mission Planner , DJI Tools	Scripting, Design.
	Manufacturing	GD&T, Design for Manufacturing, Tolerance stack up analysis,	People management, Logical reasoning, Process engineering, Tooling design, Meterology, Manufacturing technologies and processes, Mathematics
	Robotics	Coding, Embeded, ML	Automation
	Defense	AI, 3D printing, drone technology	Satellite technology, navigation,
	Management	Fish bone, pareto	Six Sigma

Feedback Report of Faculty

Criteria	High	Medium	Low
Content CO-PO Compliance			
Course content is relevant to the course mapping	31		
Course outcome contribution towards PO attainment	30	1	
Course is relevant to the PSC	28	3	
Course outcome levels are relevant to the course content	30	1	
Real world problem solving			
Course content demand usage of modern tools	25	4	2
Course content addresses current industry practice	23	8	
Course content will serve for future industry practice	25	5	1
Time management			
Adequate time available to deliver content	26	4	1
Adequate time available to conduct Assessment	25	5	1
Innovation in TLP			
Provision to introduce new TLP method	27	3	1
Availability resources in internet	24	7	
Availability of resources in local library	24	5	2
Assessment			
All assessment questions are as per blooms taxonomy and CO level	31		
Questions are relevant to CO	30	1	
There is less/ no deviation among internal and external question papers	29	2	
Student motivational level			
Students are attentive in class	27	4	

Feedback Report of Student

Criteria	High	Medium	Low
Curriculum Design			
BoS is taking care of current and Relevance of the offering Program	14	11	
Employability skills are addressed in curriculum	18	6	1
Active participation in providing suggestions in curriculum design	10	14	1
Curriculum design methodology followed by department	17	8	
Frequency in curriculum update			
The curriculum is updated regularly	15	10	
Improvements in lab experiments	8	17	
Improvements in Teaching-Learning practice	15	10	
Suggestions and Improvements			
Students Interest level in available courses (List topics to be modified)	11	14	
Time available for course preparation	18	7	
Opportunity and motivation in self study	11	14	
Availability of course reference materials (List non availability of reference materials)	19	5	1

Feedback Report on Alumni

Name	Qualification with specialisation	Choose any one below which can describe your job broadly	Designation, employer, work place	List the knowledge and skill set required for your current designation	List the specific tools/techniques using in your industry	List the skill set and tools required for meeting future trends in your domain	Email Address
SADAM HUSSAIN	B. Tech Aeronautical	Design	Senior design engineer at FLSMIDTH	Good knowledge in engineering design and designing software such as catia, solidworks, autocad	Solidworks and autocad	designing Software knowledge plus material handling	
Thamaraiselvan	B. Tech Aeronautical ,specialisation maintenance	Manufacturing	Incharge, college, Meenakshi ammal institute		Work skills	Irrelevant field but future is good	
Deepak S	B.Tech., (Aeronautical)	Quality assurance	Life cycle engineer (Quest Global-Bangalore)	Engine function and operating instruction		Repair techniques and engine instrumentation	
Vignesh S M	M.Tech Sports technology	R&D	CEO, Chuvadi	Entrepreneurship, problem solving, team management, fund raising and events management.	Open form, Mathlab, Excel, python,Scilab and Ansys	Draftfish, Scilab, SimScale and Open form	
Anju		Design	Ap	Software			
Vancha Rohith Reddy	B.Tech Aeronautical Engineering	Higher Education	NA	NA	NA	Python	vtu6788@veltechuniv.edu.in
Kamal Raj	M.tec	Design	Pim engineer (Product life cycle	Design management, cad knowledge	Bombardier, Airbus, Boeing, Hal, ADA..Ect	Catia, 3d experience,	Goutham.raj.36@gmail.com
Kondaka Shiva Sankar	B.Tech Aeronautical Engineering	R&D	Project Assignee, TAFE, Thanjavur	Basic knowledge on UAV, Maintenance of UAV, Microsoft Office	Aerial Spraying & Aerial Mapping	Good knowledge on UAV, Microsoft office, GCS softwares, GIS softwares	k.shivasankar729@gmail.com
DALJIT MAJIL D	MS [Aeronautics & Astronautics]	R&D	Aerospace Engineer, Bellwether industries, Taiwan	Deep Engineering Knowledge, First Principle Thinking & Communication .	CFD	AI, Industry 4.0	daljitaero96@gmail.com
Chandrashekhar Tasupalli	Master's degree In Mechanical and electro mechanical engineering Taiwan	Higher Education	Research assistant, Tamkang university Taiwan	Design, CFD simulation, MATLAB , cadence etc.	MEMS clean room, Lazer cutting machine, 3D printer, high speed camera set-up etc.	Design, CFD simulation and MEMS chip design Cadence	chandrasekharamma25@gmail.com
Aman Devangan	Aeronautical engineering	Entrepreneurship	Freelancer drone pilot	Drone development, flying skill	Mission Planning, Lichi app, dronedeploy, Pix4D , WebODM,	GIS softwares for aerial data processing	dewangan.aman01@gmail.com
Jeejy Theophilus J	M Tech Aeronautical (UAV)	R&D	Tractor And Farm Equipment's (TAFE)	UAV Functions, Systems knowledge, Algorithm role understanding on hardware's, troubleshooting and Leadership & management	PX4, MavProxy, ROS simulation software's, AutoCAD/CATIA, Ansys, Matlab, ArcGIS, Pix4D, OpenCV, MangoDB	OpenCV, MangoDB, PX4, Python lang, ROS, AutoCAD/CATIA, Ansys, Matlab.	jeejytheophilus@tafe.com
Vivek Jabaraj Joseph	PhD, Mechanical and Electro-Mechanical Engineering	Design	Research scholar, Tamkang University, Taiwan	Fluid mechanics, aircraft stability, avionics, MEMS, semiconductors	Solidworks, catia, ANSYS, COMSOL, Cadence, Autocad, arduino, matlab, python	Cad modeling, FEM simulation, avionics, semiconductor design, semiconductor fabrication, semiconductor testing	vivekjabarajwork@gmail.com
Rohith Reddy Thummalapally	Graduate student - Aeronautical Engineering	Higher Education	Master's student, Department of Material Science, National Cheng Kung University, Tainan,	Working knowledge of Calculus, Physics and Chemistry and also Computer modelling experience	VASP, VESTA, Materials Studio and Ansys		rohithreddythummalapally@gmail.com
BALASUBRAMANIYAN V	B.Tech - Aeronautical engineering	R&D	Graduate Engineer, Executive,UCAL TECHNOLOGIES (Aerospace and defence division of UCAL Fuel Systems	Design and Manufacturing	Advanced composite materials parts production with Autoclave machine.	Design and Structural analysis of composite materials for aerospace,	v.bala251099@gmail.com
Karthika	M.Tech UAV	Design	Assistant Manager	Softwares	3D printing	Advanced technology in 3D printing	karthika.spacenov1@gmail.com

Feedback Report on Industry Expert

Name	Qualification with specialisation	Choose any one below which can describe your job broadly	Designation, employer, work place	List the knowledge and skill set required for your current designation	List the specific tools/techniques using in your industry	List the skill set and tools required for meeting future trends in your domain	Email Address
Mohammed Azharuddin	B.E Aeronautical, Health safety and environment	Maritime and Logistics	HSSEQ Coordinator, MILAHA MARITIME & LOGISTICS	Knowledge on Legal requirements and compliance of local country, Knowledge is Job safety Analysis, Knowledge to investigate Accidents, Ability to suggest safe work method, Ability to influence workforce, Knowledge on ISO 9001, ISO 45001 AND ISO 14001 AND SO ON.	Root cause Analysis - 5 why and fish bone analysis, Training matrix to track the training record of each and every individual	NEBOSH IGC, IOSH, ISO 45001 LEAD AUDITOR, ISO 14001 ENVIRONMENTAL AUDITOR	
Sivashankar	ME VLSI Design	R&D	CTO	Drones, Autopilot, Control System, Embedded Programming	Python, Open CV, SolidWorks, Matlab	Scripting, Design.	
Sathishkumar	Engineering, Cloud technology	Cloud computing	Technology Analyst	IOT	AWS/Azure	Devops tools	
Samrat Pradhan	M.Tech Avionics	Aviation	Airworthiness Officer, Civil Aviation Authority of Nepal, Kathmandu, Nepal	Aviation knowledge, Civil Aviation Requirements, Aircraft Type Training	Compliance monitoring by audit, surveillance, etc	Safety Management System(ICA0 Annex 19)	
Karthick R	B.E Aeronautical engineering	Quality assurance	Application Tester	Java,SQL, MS office	Selenium, Cucumber framework	Cucumber framework, Soap UI	
Tamilarasan P	BE AERONAUTICAL	Aviation	Manufacturing Lead and UAV Pilot	CATIA V5 , Composite manufacturing UAV Piloting Autopiloting Integrating	CATIA		
Anbarasan Annadurai	Msc Aeronautical specialized in Aircraft system Engineering and Design	Higher Education	Student	Product development and design	Matalab,Modefrontie,Catiav5, Ansys.C,C++,Java,Star CCM	Star CCM	
SASITHARAN A	B.Tech , Aerospace	Management	Drone Operation Manager	UAV , Design , Maths , Communication , Avionics , Basic Programming (Ex: Arduino , etc.), UAS Piloting.	CAD , CAE , Mission Planner , DJI Tools	Innovative Thinking , Artificial Intelligence , Machine Learning	
Linganandam	Master in avionics	Automobile	Robert bosch, bangalore	Analtical and programming skills	All CAN Related tools	Machine learning and artificial intelligence	
Kothandaraman K	B.E.Aeronautical Engineering	R&D	Design Engineer	1.Cad software:actually,NX 2.design calculations. 3.GD&T 4.Stock Up 5.DFMEA	Catia UG-NX	Advanced materials, Strength of materials.	
T,MATHEVAN PILLAI	M.E. Thermal Power Engineering	Manufacturing	Dy.General Manager,NLC INDIA Ltd,Neyveli and Barsingsar(Rajastan)	Experience,Hard work,Involvement,	Training ,Planning, Decision making,completing the work as per schedule	Planning, Execution decision making and Experience	mathevanpillai.t57@gn
Manivel Mohanasundaram	M.E. - Aeronautical Engineering	Design	HVAC Engineer - EATON @ Singapore	HVAC System Design Standards	AUTOCAD, REVIT, SOLIDWORKS & ANSYS WORKBENCH	Course modules for Composite Structures, Thermal & Electrical insulation materials.	manivel02@gmail.co m
Gopinathan	BE aeronautical engineering	Manufacturing	Production Manager, Dileka Aerospace, Trichy	Engineering drawing, composite materials, Structures, Advanced Engineering tools, Design analysis	Designing softwares, Analysing softwares, NDT	NDT, Basic engineering, Structure based knowledge	dilekaaerospace@gma

Anand Janakiraman	B.E.Aeronautical	Technical Publications	Team Lead, Engineering Data Author, Boeing India PVT LTD, Chennai	Engineering Graphics, Analytics, Aerodynamics, Aircraft Design, Engineering Reading, Basics of Aircraft	Catia, Enovia, Proge Cad	Aerospace Knowledge, Design, Technical Documentation, Engineering Problem Solving, Customer support on various aviation areas.	anandaero002@gmail
Javagar	B.E aeronatical	Aviation	Senior engineer,alten india, Bangalore	Aircraft maintenance, basic electrical, engineering graphics, aircraft charecterstics, quality management, aircraft engines, fly by wire related complete knowledge.	Microsoft word and excel, Adobe acrobat, lean methodology, PDCA cycle.	Project management and technical writing tools	javagar777@gmail.co m
Renukadevi	BE	R&D	CAE Engineer	Strengthbof materials, design	Hypermesh, Cadd, catia	Simulation, simlab, 3D design softwares	renuaero@gmail.com
Duraipandian	MBA	Quality assurance	BOOKS AND	COMPUTER KNOWLEDGE	TUT FILE	Automation of pdf	duraipandian.biochem.
Renukadevi	BE	R&D	FEMLOGIC	Strength of materials	Hypermesh, Cadd, catia	SIMLAB, FUSION	renuaero@gmail.com
Mariappan lakshmanan	engineering	Manufacturing	technology services	Mechanical engineering	Creo, solid works	works, Lean, 6sigma Manufacturing	m
Senthilkumar	DESIGN	R&D	ENGINEER	FEA, SOM	ABAQUS, ANSA		rmsenthilkumar01@gn
Lakshmanan Palanimuthu	PhD in Composite Materials	Design		Linear/Nonlinear Finite Element	AUTOFORM, StarCCM,	Intelligence, First Principle and	m
Mohanasundaram	B.E (Mechanical)	R&D	Suzuki India limited,	and development,	UG NX, NACCS,	CATIA, UGNX,	mohanasund5191@gr
Dinesh	Enginnering	Design	India Pvt Ltd	plastic, metal parts with CAD	CATIA, UG NX	CATIA, UG NX	jagannathandinesh@g
Mukundhan Selvam	(Aerospace engineering)	R&D	scientist, MSC	Cuda, Python, FEA, HPC	engineering	High Performance Computing	mukunthhgr8@gmail.c
Akbaf Gaffoor	B.E Aero	Manufacturing	Arrival Automotive	Manufacturing, Tolerance stack	Polyworks	applications, Material science,	m
Ravi	engineering	Quality assurance	MOTHERSON	Material science	Fish bone, pareto	Six sigma	m
Selvaganapathy Nagarajan	BE Aeronautics	Manufacturing	technician	codes, able to write manual	programming		ganapathy013@gmail.
R Dhisonthar	M.Tech Design Engineering	Design	Engineer, Ansys	CAE skills	Ansys, Python	Python	om
Deepak	Me in Aerospace Technology	Information technology	IT Analyst, TCS, Kochi	Programming in c#, Selenium	Visual studio, Selenium, Appium, Xamarin uitest	Any programming language, open source test automation tools	deepakkg88@gmail.c om
PL RajaRao	Engineering	R&D	Wind Systems,	Heat Transfer, Project Planning,	XFoil, RFoil,	Agile Methods	rajarao.pl@gmail.com
Abdul Rauf	M.E Aeronautical engineer- Composites/Stress analysis/Fatigue	R&D	Tech lead, Chennai	Composite design and calculation	Ansys, Patran, Nastran, Hypermesh, Abaqus, Creo, Catia	Learn the subjects with applications. Eg: we should think and study where this subject will be useful in industry/product. Another eg: Aerodynamics useful for designing outer shapes(use cfd with validation not just colour plots)/Aerostructures for inner strength (use with validation not just colour plots). Sample project to explore this understanding should be taken during semester holidays.	abdulraufaero@gmail.
Gokul	M.S Quality management	Quality assurance	SDSC SHAR, ISRO	making skills	predictable analysis	Industry 4.0, 3D technology	m
Sivaraj Sivakumaran	M.E Aerospace Technology	R&D	"SE", ISRO, URSC	Determination, Trajectory Design	tools		siva.prop@gmail.com
Ravichandran	BE Aeronautical	Design	Engineer, RNTBCI	Enovia , PLM &PDM	NX & CATIA	related experience and software	vravi.tdr@gmail.com
SEETHARAMAN	M.Tech in ECE	R&D	ISRO, Bangalore	defence technology, aero space	domain	printing, drone technology,	purushoth11atms@gr
Srinandh S	Engineering	Design	Product Engineer	Materials & Manufacturing	one design and Analysis	DFSS	



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Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

Department of Aeronautical Engineering
Faculty Feedback on Curriculum

Name: Beopathy G

ID No.: TTS 1227

Designation: Assoc Prof.

D.O.J: 05/8/2008

S.No	Criteria	High	Medium	Low
	Content – CO – PO compliance			
1	Course content is relevant to the course mapping	/		
2	Course outcome contribution towards PO attainment	/		
3	Course is relevant to the PSC	/		
4	Course outcome levels are relevant to the course content	/		
	Real world Problem solving			
5	Course content demand usage of modern tools		/	
6	Course content addresses current industry practice	/		
7	Course content will serve for future industry practice		/	
	Time management			
8	Adequate time available to deliver content		/	
9	Adequate time available to conduct Assessment		/	
10	Students are attentive in class	/		
	Innovation in TLP			
11	Provision to introduce new TLP method	/		
12	Availability resources in internet	/		
13	Availability of resources in local library	/		
	Assessment			
14	All assessment questions are as per blooms taxonomy and CO level	/		
15	Questions are relevant to CO	/		
16	There is less / no deviation among internal and external question paper		/	
	Curriculum Design			
17	BoS is taking care of Current and Relevance of the offering Programme	/		
18	Employability skills are addressed in curriculum	/		
19	Active participation in providing suggestions in curriculum design		/	
20	Curriculum design methodology followed by department		/	
21	The curriculum is updated regularly	/		

Kindly provide suggestions to improve (Answers marked with Medium and low)

Industry visits helps students to gain practical knowledge; frequent arrangement of industrial visits needed.


Signature



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Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

Department of Aeronautical Engineering

Students Feedback on Curriculum

Name: S. Sairam

ID No.: 9200

Year: 3rd year

Batch: 2017-21

S.No	Criteria	High	Medium	Low
Curriculum Design				
1	BoS is taking care of Current and Relevance of the offering Programme		✓	
2	Employability skills are addressed in curriculum	✓		
3	Active participation in providing suggestions in curriculum design		✓	
4	Curriculum design methodology followed by department	✓		
Frequency in Curriculum update				
5	The curriculum is updated regularly		✓	
6	Improvements in lab experiments		✓	
7	Improvements in Teaching – learning practice		✓	
Suggestions and Improvements				
8	Students interest level in available courses (List topics to be modified / removed)	✓		
9	Time available for course preparation		✓	
10	Opportunity and motivation in Self Study		✓	
11	Availability of course reference materials (List non availability of reference materials)	✓		
Kindly provide suggestions to improve (Answers marked with Medium and low)				
<u>We need more reference books from library.</u>				


SIGNATURE

Aeronautical Engineering Curriculum - Insights

52 responses

[Publish analytics](#)

Name

52 responses

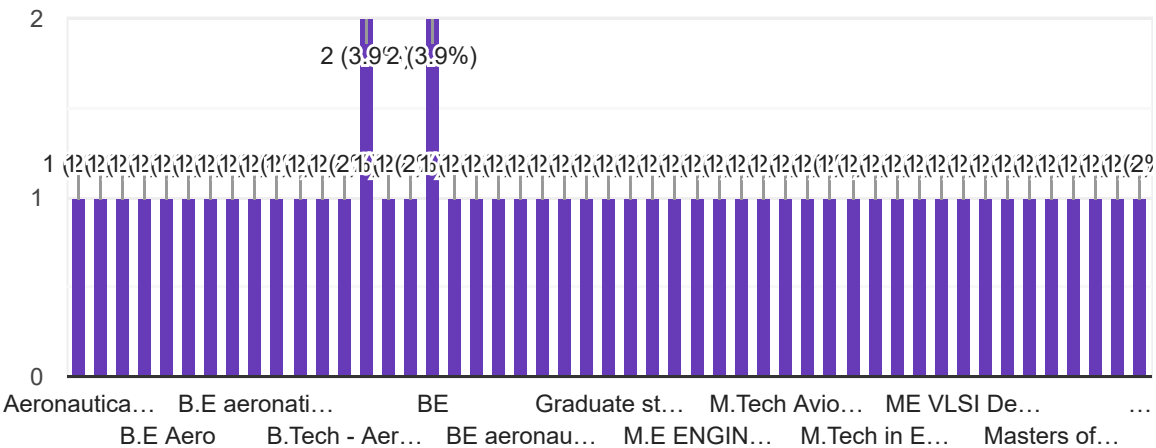
- Renukadevi
- Mohammed Azharuddin
- Sivashankar
- Sathishkumar
- Samrat Pradhan
- Karthick R
- Tamilarasan P
- Anbarasan Annadurai
- SASITHARAN A



Qualification with specialisation

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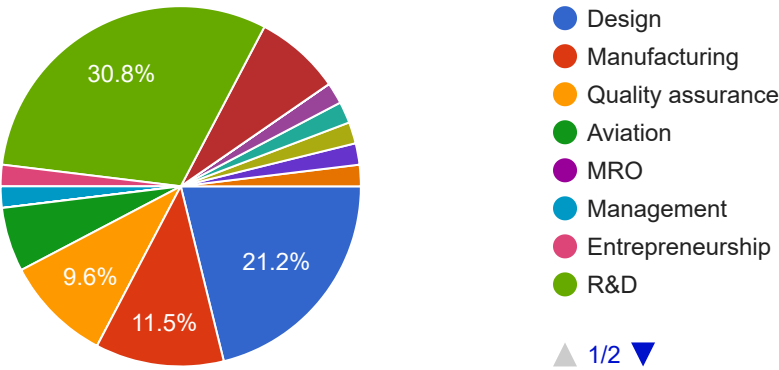
51 responses



Choose any one below which can describe your job broadly

 Copy

52 responses



Designation, employer, work place

51 responses

HSSEQ Coordinator, MILAHA MARITIME & LOGISTICS

CTO

Technology Analyst

Airworthiness Officer, Civil Aviation Authority of Nepal, Kathmandu, Nepal

Application Tester

Manufacturing Lead and UAV Pilot

Student

Drone Operation Manager

Robert bosch, bangalore



List the knowledge and skill set required for your current designation

51 responses

Knowledge on Legal requirements and compliance of local country, Knowledge is Job safety Analysis, Knowledge to investigate Accidents, Ability to suggest safe work method, Ability to influence workforce, Knowledge on ISO 9001, ISO 45001 AND ISO 14001 AND SO ON.

Drones, Autopilot, Control System, Embedded Programming

IOT

Aviation knowledge, Civil Aviation Requirements, Aircraft Type Training

Java,SQL, MS office

CATIA V5 ,
Composite manufacturing
UAV Piloting
Autopiloting Integrating



List the specific tools/techniques using in your industry

50 responses

Root cause Analysis - 5 why and fish bone analysis, Training matrix to track the training record of each and every individual

Python, Open CV, SolidWorks, Matlab

AWS/Azure

Compliance monitoring by audit, surveillance, etc

Selenium, Cucumber framework

CATIA

Matalab,Modfrontie,Catiav5,Ansys.C,C++,Java,Star CCM

CAD , CAE , Mission Planner , DJI Tools

All CAN Related tools



List the skill set and tools required for meeting future trends in your domain

46 responses

Python

NEBOSH IGC, IOSH, ISO 45001 LEAD AUDITOR, ISO 14001 ENVIRONMENTAL AUDITOR

Scripting, Design.

Devops tools

Safety Management System(ICAO Annex 19)

Cucumber framework, Soap UI

Star CCM

Innovative Thinking , Artificial Intelligence , Machine Learning

Machine learning and artificial intelligence

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