

Minutes of the Board of Studies Meeting

Held on 07/05/18, at 10.30 AM onwards, at the Board Room - Peenya Campus.

DEPARTMENT OF AUTOMOTIVE AND AERONAUTICAL ENGINEERING Faculty of Engineering and Technology M S Ramaiah University of Applied Sciences

Members Present:

Name	
Dr. Raja R	Chairperson
Mrs. Priyanka	Secretary
Dr. Arulanantham	Dean/ FET
Dr. H. K. Narahari	Internal Member
Prof. Ashok C. Meti	
Dr. Mahesh K. Varpe	
Dr. M. Sivapragasam	
Mr. Umesh S	
	External Member

Leave of Absence: Dr. Srikari S, Dr A T Sriram, Dr Thanga Ilango and Mr. J S Kumar

Call to Order and Quorum:

The meeting was called to order **BOS/ AAE** - Chairperson at 10.30 AM.

With the sufficient quorum being present the proceedings of the meeting were commenced.

1) Agenda 1 : Welcome and Overview

Prof. Raja R welcomed the members of Board of Studies Meeting. He briefed the members about the significance of the revisions being made/ proposed in programmes being introduced and also the significance and need for revisions being made in the existing programmes being presented in the first BOS meeting for approval.

2) Agenda 2: Apologies for absence

Prof. Raja R informed the BOS members, due to unavoidable circumstances, few of the BOS members were unable to attend this BOS meeting and they apologized for the same. However, they have provided the suggestion based on the documents provided to them.

9
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054
Dean
Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 058.
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054
Dean - Academics
Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054
Dean
Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



3) Agenda 3: Presentation of the faculty feedback

1. Faculty feedback is received and found satisfactory. A few suggestions proposed to revise the syllabus and to use modern pedagogy for knowledge dissemination.
 - Suggestions from stake holders is considered for discussion and its implementation.

4) Agenda 4: Presentation of Academic Regulations, Programme Specification, and Course Sepecification of B.Tech Automotive Engineering by Prof. Raja R

1. Most of the courses in the PS documents meets national and global needs.
2. Courses related to skill development, employability and entrepreneurship are continued as is.
3. New courses were introduced in 2nd, 3rd and 4th year of the program curriculum and submitted to discussion with BOS members.
4. Student internship and project work activities to encourage experiential learning are continued as is.

Document: B.Tech Automotive Engineering Program Structure
(Refer Annexure-1)

Observation/ Remarks made by members:

1. Dr. Arulanantham suggested that order of the subjects in fifth semester can be changed.
2. Prof. Ashok C Meti suggested maximum of 4 hours of exclusive tutorials in a semester.
3. Dr. H K Narahari observed that the number of difficult subject in sixth semester are more than 2 courses, it may be difficult for the students.
4. Dr Thanga Ilango opined that the program structure looks good and courses selected are relevant to automotive industries.

Document: B.Tech Automotive Engineering Course specification

Observation/ Remarks made by members:


1. Dr. Arulanantham suggested that Steady Flow Energy quation concepts need to specified explicitly in course contents of Thermodynamics for Engineers
2. Mr. Umesh observed that the course contents of Manufacturing Processes for Automotive and Aerospace systems are more and it may be difficult for the faculty to cover the syllabus.
3. Members pointed out some of spelling mistakes and format in course contents which duly noted by secretary
4. Dr Thanga Ilango opined that the contents in Electric Mobility and energy sources should have some electrical motor concepts related to performance.
5. All the BOS members appreciated that the professional core elective courses are grouped very nicely and students have the opportunity to get more exposure on particular specialization.


Dean

Faculty of Engineering and Technology
M.S. Ramaiah University of Applied Sciences
Bangalore-560058

2


Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054


Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



5) Agenda 5: Presentation of Academic Regulations, Programme Specification, and Course Specification of B.Tech Aerospace Engineering by Prof. Raja R

1. Most of the courses in the PS documents meets national and global needs.
2. Courses related to skill development, employability and entrepreneurship are continued as is.
3. New courses were introduced in 4th year of the program curriculum and submitted to discussion with BOS members.
4. Student internship and project work activities to encourage experiential learning are continued as is.

Document: B.Tech Aerospace Engineering Program Structure (Refer Annexure-2)

Observation/ Remarks made by members:

1. Prof. Ashok C Meti suggested maximum of 4 hours of exclusive tutorials in a semester.
2. Dr. Mahesh K VARpe suggested some of the course names are common, if the contents are different, it should have separate code and if possible provide different course name.
3. Dr. H K Narahari observed that the number of difficult subject in sixth semester are more than 2 courses, it may be difficult for the students.
4. Mr. J S Kumar suggested that Rotor Dynamics subjected could be added as core or elective subject in the program.

Document: B.Tech Aerospace Engineering Course specification

Observation/ Remarks made by members:

1. Dr. Arulanantham suggested that as aerospace students are not having the separate heat transfer course as a cor, if possible add the heat transfer basic concepts can be added in one of subjects in 3rd semester or 5th semester.
2. Dr. Narahari observed that stability contents need to be elaborated in course contents of Aircraft performance, stability and controls
3. Mr. J S Kumar and Dr. Arulanantham suggested that Course contents can be elaborated in Aircraft Structures-1 and Aircraft- 2 courses
4. All the BOS members appreciated that the professional core elective courses are grouped very nicely and students have the opportunity to get more exposure on particular specialization.

Board of Studies approved the documents of B.Tech in Automotive and B.Tech in Aerospace Engineering with suggestions as recommended.

Vote of Thanks & Adjournment:

There being no further business the Chairperson declared the meeting adjourned by unanimous consent. The meeting ended with the vote of thanks by the Chairperson.


Dr Raja R

Chairperson – BoS
Department of Automotive and Aeronautical Engineering
Faculty of Engineering and Technology
MS Ramaiah University of Applied Sciences


Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054


Dean

Faculty of Engineering and Technology
M.S. Ramaiah University of Applied Sciences
Bangalore-560058


Dean - Academics

M.S. Ramaiah University of Applied Sciences
Bangalore-560054

Anexure-1 Programme Structure

Semester 1							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC101A	Engineering Mathematics-1	3	2	0	4	100
2	18BSC102A	Engineering Physics	3	2	0	4	100
3	18ESC101A	Elements of Mechanical Engineering	3	0	0	3	100
4	18ESC102A	Elements of Electronics Engineering	3	2	0	4	100
5	18ESC103A	Engineering Drawing	1	0	4	3	100
6	18BSL103A	Engineering Physics Laboratory	0	0	2	1	50
7	18ESL104A	Basic Workshop Practice	0	0	2	1	50
8	18ESL105A	Basic Electronics Laboratory	0	0	2	1	50
9	18HST101A	Elements of Social Sciences and Ethics	2	0	0	2	50
Total			15	6	10	23	700
Total number of contact hours per week			26				
Number of credits can be registered			Minimum		17	Maximum	21

Semester 2							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC104A	Engineering Mathematics - 2	3	2	0	4	100
2	18BSC105A	Engineering Chemistry	3	0	0	3	100
3	18ESC106A	Engineering Mechanics and Construction Materials	3	2	0	4	100
4	18ESC107A	Elements of Electrical Engineering	3	2	0	4	100
5	18ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100
6	18ESL109A	Computer Programming Laboratory	0	0	2	1	50
7	18BSL106A	Engineering Chemistry Laboratory	0	0	2	1	50
8	18ESL110A	Basic Electrical Engineering Laboratory	0	0	2	1	50

Dean

9.	18HST102A	Professional Communication	2	0	0	2	50
Total			17	8	6	24	700
Total number of contact hours per week			31				
Number of credits can be registered			Minimum		20	Maximum	24

Semester 3							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19MHB201A	Engineering Mathematics - 3	2	2	0	4	100
2	19AUC202A	Materials Science for Engineers	3	0	0	3	100
3	19AUC203A	Elements of Automotive Systems	3	0	0	3	100
4	19AUC204A	Strength of Materials	4	0	0	4	100
5	19AUC205A	Fluid Mechanics and Machines	3	1	0	4	100
6	19AUL206A	Automotive Systems Laboratory	0	0	2	1	50
7	19AUL207A	Materials and Testing Laboratory	0	0	2	1	50
8	19AUL208A	Fluid Mechanics and Machines Laboratory	0	0	2	1	50
9	19CEM210A	Environmental Studies	2	0	0	0	Audit
Total			16	3	6	20	650
Total Number of Contact Hours per week			25				
Number of Credits can be registered					16	20	

Semester 4							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19MHB211A	Engineering Mathematics - 4	2	2	0	4	100
2	19AUC212A	Thermodynamics for Engineers	4	0	0	4	100
3	19AUC213A	Manufacturing Processes for Automotive Systems	3	0	0	3	100
4	19AUC214A	Theory of Machines	3	1	0	4	100
5	19AUC215A	3D Modeling and Machine Drawing	1	0	4	3	100
6	19AUL216A		0	0	2	1	50

		Manufacturing Processes Laboratory					
7	19AUL217A	Kinematics and Dynamics Simulation Laboratory	0	0	2	1	50
Total			13	3	8	20	600
Total Number of Contact Hours per week			24				
Number of Credits can be registered			Minimum	16	Maximum	20	

Semester 5							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19AUC301A	Applied Thermodynamics and I.C. Engines	3	1	0	4	100
2	19AUC302A	Automotive Transmission	3	0	0	3	100
3	19AUC303A	Automotive Electrical and Electronics Systems	3	0	0	3	100
4	19AUC304A	Design of Automotive Components	3	1	0	4	100
5	19AUC305A	Control System Engineering	4	0	0	4	100
6	19AUL306A	Fuel Testing and Power Train Laboratory	0	0	2	1	50
7	19AUL307A	Control Systems Laboratory	0	0	2	1	50
Total			16	2	4	20	600
Total Number of Contact Hours per week			22				
Number of Credits can be registered			Minimum	16	Maximum	20	

Semester 6							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19AUC311A	Vehicle Body Engineering and Safety Systems	3	0	0	3	100
2	19AUC312A	Finite Element Analysis	3	1	0	4	100
3	19AUC313A	Automotive Noise, Vibration and Harshness	4	0	0	4	100
4	19AUC314A	Vehicle Dynamics and Handling	3	1	0	4	100
5	19AUC315A	Engineering Economics and Cost Estimation	3	0	0	3	100
6	19AUL316A	CAE and NVH Laboratory	0	0	2	1	50
7	19AUL317A	Vehicle Aerodynamics and Styling Laboratory	0	0	2	1	50
Total			16	2	4	20	600
Total Number of Contact Hours per week			22				
Number of Credits can be registered			Minimum	16	Maximum	20	

Dean

Dean

Semester 7							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19AUE41XA	Professional Core Elective -1	4	0	0	4	100
2	19AUSE42XA	Professional Core Elective -2	4	0	0	4	100
3	19AUE43XA	Professional Core Elective -3	4	0	0	4	100
4	19AUO41XA	Open Elective-1	3	0	0	3	100
5	19AUP401A	Seminar	0	0	2	2	50
6	19AUP402A	i) Project -I	0		12	6	100
	19AUP403A	ii) Internship (Any one)					
Total			15	0	14	23	550
Total Number of Contact Hours per week			29				
Number of Credits can be registered			Minimum	18	Maximum	23	

Semester 8							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19AUE44XA	Professional Core Elective -4	4	0	0	4	100
2	19AUO42XA	Open Elective -2	3	0	0	3	100
3	19AUP404A	Project Work -2	0	0	20	10	100
Total			7	0	20	17	300
Total Number of Contact Hours per week			27				
Number of credits can be registered			Minimum	13	Maximum	17	

Professional Core Electives (PCEs) Semester 7						
Name of the Specialisation	PCE - 1		PCE - 2		PCE - 3	
	Code	Course Title	Code	Course Title	Code	Course Title
Advanced Vehicles	19AUE 411A	Electric Mobility and Energy Storage	19AUE 421A	Sensors and Controls for Automotive Applications	19AUE 431A	Intelligent Vehicle Technology
Fuels and Combustion	19AUE 412A	Automotive Fuels and Combustion	19AUE 422A	Automotive Pollution and Control	19AUE 432A	Alternate Fuels for IC Engines
Automotive Systems	19AUE 413A	Light and Novel Materials	19AUE 423A	Automotive Product Design	19 AUE 433A	Design of Automotive Systems
Data Sciences and Analytics	19MH E401A	Probability and Statistics	19CSE 421A	Data Sciences Foundation	19CSE 431A	Data Sciences Algorithms and applications

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Dean

Faculty of Engineering & Technology

Professional Core Electives (PCEs) Semester 8		
Name of the Specialisation	PCE - 4	
	Course Code	Course Title
Advanced Vehicles	19AUE441A	Autonomous Car and Advanced Transportation Systems
Fuels and Combustion	19AUE442A	Simulation of IC Engine process
Automotive Systems	19AUE443A	Fatigue and Fracture Mechanics
Aerospace materials	19ASE443A	Surface Engineering
Data Sciences and Analytics	19CSE441A	Data Analytics



Dean

Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 058.



Dean - Academics
M.S. Ramaiah University of Applied Sciences

Note:

1. A student must select an open elective and three professional core elective courses, a course each from PCE-1, PCE-2 and PCE-3 groups during the 7th semester.
2. A student must select an open elective and a professional core elective course from PCE-4 group during the 8th Semester

Open Electives:

Numerous electives from faculty of engineering, management and commerce, art and design, hospitality management and catering technology, pharmacy, dental sciences will be offered as mentioned in university website. Students can choose the open electives on their own choice.

The List of Open Electives

Faculty	Department	Courses for Semester-7		Courses for Semester-8	
		Course Code	Course Title	Course Code	Course Title
FET	AAE	OET401	Automotive Technology	OET451	Introduction to Aircraft Systems
	CE	OET402	Building and Interior Planning	OET452	Sanitation and Waste Management
	CSE	OET403	Development of Mobile Apps	OET453	Data Management and Analysis
	ECE	OET404	Fundamentals of Telecommunication	OET454	Electronic Devices and Appliances
	EEE	OET405	Renewable Energy Systems	OET455	Electrical Devices and Appliances
	MME	OET406	Computer Aided Design	OET456	Energy, Ecology and Environment
FAD	ID	OAD401	Textiles and Fashion Design	OAD451	Physical Model Making
		OAD402	Sketching and Painting	OAD452	Interior Design
				OAD453	Art, Culture and Short Film Making
FMC	MS	OMC401	Contemporary Management Practices	OMC451	Personal Finance
	COM	OMC402	Innovation and Entrepreneurship	OMC452	Digital Marketing and e-Commerce
FSH	Physics	OSH401	Physics in Everyday Life		
	Chemistry	OSH402	Chemistry of Batteries and Fuel Cells	OSH452	Beauty of Chemistry
	Mathematics	OSH403	Mathematical Reasoning		
FDS	DS	ODS401	Promotive Oral Health Care	ODS451	Dental Equipment and Technology (Dental Engineering)
FPH	PH	OPH401	Herbal Drugs	OPH451	OTC (Over the Counter) Medicines
FHMCT		OHM401	Hospitality at Home	OHM451	Art and Science of Cooking
DTSLD		OTL401	German Language	OTL451	Applied Popular Music
		OTL402	Yoga and Spirituality	OTL452	Fundamentals of Political Science
		OTL403	Theatre for all	OTL453	Society, Culture and Human Behaviour
		OTL404	Creative Writing	OTL454	French Language

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 058

Dean - Academics

Dean
Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 058.

Annexure-2

Programme Structure

Semester 1							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorial (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC101A	Engineering Mathematics-1	3	2	0	4	100
2	18BSC102A	Engineering Physics	3	2	0	4	100
3	18ESC101A	Elements of Mechanical Engineering	3	0	0	3	100
4	18ESC102A	Elements of Electronics Engineering	3	2	0	4	100
5	18ESC103A	Engineering Drawing	1	0	4	3	100
6	18BSL103A	Engineering Physics Laboratory	0	0	2	1	50
7	18ESL104A	Basic Workshop Practice	0	0	2	1	50
8	18ESL105A	Basic Electronics Laboratory	0	0	2	1	50
9	18HST101A	Elements of Social Sciences and Ethics	2	0	0	2	50
Total			15	6	10	23	700
Total number of contact hours per week			31				
Number of credits can be registered			Minimum	18	Maximum	23	

Semester 2							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	18BSC104A	Engineering Mathematics - 2	3	2	0	4	100
2	18BSC105A	Engineering Chemistry	3	0	0	3	100
3	18ESC106A	Engineering Mechanics and Construction Materials	3	2	0	4	100
4	18ESC107A	Elements of Electrical Engineering	3	2	0	4	100
5	18ESC108A	Elements of Computer Science and Engineering	3	2	0	4	100
6	18ESL109A	Computer Programming Laboratory	0	0	2	1	50
7	18BSL106A	Engineering Chemistry Laboratory	0	0	2	1	50
8	18ESL110A	Basic Electrical Engineering Laboratory	0	0	2	1	50
9	18HST102A	Professional Communication	2	0	0	2	50
Total			17	8	6	24	700
Total number of contact hours per week			31				
Number of credits can be registered			Minimum	20	Maximum	24	

Semester 3							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19MHB201A	Engineering Mathematics - 3	2	2	0	4	100
2	19ASC202A	Materials Science for Engineers	3	0	0	3	100
3	19ASC203A	Introduction to Aerospace Systems	3	0	0	3	100
4	19ASC204A	Thermodynamics for Engineers	4	0	0	4	100
5	19ASC205A	Fluid Mechanics and Machines	3	1	0	4	100
6	19ASL206A	Aeromodelling Laboratory	0	0	2	1	50
7	19ASL207A	Fluid Mechanics and Machines Laboratory	0	0	2	1	50
8	19CEM210A	Environmental Studies	2	0	0	0	Audit
Total			18	3	4	20	600
Total Number of Contact Hours per week			25				
Number of Credits can be registered			16			20	

Semester 4							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19MHB211A	Engineering Mathematics - 4	2	2	0	4	100
2	19ASC212A	Strength of Materials	3	1	0	4	100
3	19ASC213A	Manufacturing Processes for Aerospace Systems	3	0	0	3	100
4	19ASC214A	3D Modeling and Machine Drawing	1	0	4	3	100
5	19ASC215A	Aerodynamics-1	3	0	0	3	100
6	19ASL216A	Materials and Testing Laboratory	0	0	2	1	50
7	19ASL217A	Manufacturing Processes Laboratory	0	0	2	1	50
8	19ASL218A	Aerodynamics Laboratory	0	0	2	1	50
Total			12	3	10	20	650
Total Number of Contact Hours per week			25				
Number of Credits can be registered			Minimum	16	Maximum	20	

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Dean
Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 058.

Semester 5							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19ASC301A	Aerospace Structures	3	1	0	4	100
2	19ASC302A	Theory of Machines and Mechanisms	3	0	0	3	100
3	19ASC303A	Aerodynamics -2	4	0	0	4	100
4	19ASC304A	Aircraft Performance, Stability and control	3	0	0	3	100
5	19ASC305A	Aerospace Propulsion-1	3	1	0	4	100
6	19ASL306A	Aerospace Structures Laboratory	0	0	2	1	50
7	19ASL307A	Aerospace Propulsion Laboratory	0	0	2	1	50
Total			15	3	4	20	600
Total Number of Contact Hours per week			22				
Number of Credits can be registered			Minimum	16	Maximum	20	

Semester 6							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19ASC311A	Aerospace Propulsion -2	3	1	0	4	100
2	19ASC312A	Engineering Economics	3	0	0	3	100
3	19ASC313A	Finite Element Analysis	3	1	0	4	100
4	19ASC314A	Control System Engineering	4	0	0	4	100
5	19ASC315A	Computational Fluid Dynamics	3	0	0	3	100
6	19ASL316A	CFD Laboratory	0	0	2	1	50
7	19ASL317A	CAE Practices for Aerospace Application	0	0	2	1	50
Total			16	2	4	20	600
Total Number of Contact Hours per week			22				
Number of Credits can be registered			Minimum	16	Maximum	20	

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Dean
Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 058.

Academics

Semester 7							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19ASE41XA	Professional Core Elective -1	4	0	0	4	100
2	19ASE42XA	Professional Core Elective -2	4	0	0	4	100
3	19ASE43XA	Professional Core Elective -3	4	0	0	4	100
4	19ASO41XA	Open Elective-1	3	0	0	3	100
5	19ASP401A	Seminar	0	0	2	2	50
6	19ASP402A	i) Project -I	0		12	6	100
	19ASP403A	ii) Internship (Any one)					
Total			15	0	14	23	550
Total Number of Contact Hours per week			29				
Number of Credits can be registered			Minimum	19	Maximum	23	

Semester 8							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	19ASE44XA	Professional Core Elective -4	4	0	0	4	100
2	19ASO42XA	Open Elective -2	3	0	0	3	100
3	19ASP404A	Project Work -2	0	0	20	10	100
Total			7	0	24	17	300
Total Number of Contact Hours per week			19				
Number of credits can be registered			Minimum	13	Maximum	17	

Professional Core Electives (PCEs) Semester 7						
Name of the Specialisation	PCE - 1		PCE - 2		PCE - 3	
	Code	Course Title	Code	Course Title	Code	Course Title
Aerospace Vehicles	19ASE 411A	Conceptual Aircraft Design	19ASE 421A	Unmanned Air Vehicles	19ASE 431A	Launch Vehicles and Missiles
Aircraft Structures	19ASE 412A	Aerospace Structural Dynamics	19ASE 422A	Composite Structures	19ASE 432A	Engineering Optimization
Aerospace materials	19ASE 413A	Light Weight and Novel Materials	19ASE 423A	Testing Techniques for Aerospace Systems	19ASE 433A	Advanced Manufacturing Techniques
Flow Dynamics	19ASE 414A	Advanced Fluid Mechanics	19ASE 424A	Advanced Computational Fluid Dynamics	19ASE 434A	Helicopter Aerodynamics
Data Sciences and Analytics	19MHB401A	Probability and Statistics	19CSE 421A	Data Sciences Foundation	19CSE 431A	Data Sciences Algorithms and applications

Professional Core Electives (PCEs) Semester 8		
Name of the Specialisation	PCE - 4	
	Course Code	Course Title
Aerospace Vehicles	19ASE441A	Combat and Transport Aircrafts
Aircraft Structures	19ASE442A	Fatigue and Fracture Mechanics
Aerospace materials	19ASE443A	Surface Engineering
Flow Dynamics	19ASE444A	Hypersonic Flow
Data Sciences and Analytics	19CSE441A	Data Analytics

Open Electives:

A number of electives from faculty of engineering, management and commerce, art and design, hospitality management and catering technology, pharmacy, dental sciences as mentioned in university website. Students can choose the open electives on their own choice.

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Dean
Faculty of Engineering & Technology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 058.

Dean - Electronics

Note:

1. A student must select an open elective and a professional core elective course from PCE-1 group during the 6th Semester.
2. A student must select an open elective and three professional core elective courses, a course each from PCE-2, PCE-3 and PCE-4 groups during the 7th semester.

Open Electives:

Numerous electives from faculty of engineering, management and commerce, art and design, hospitality management and catering technology, pharmacy, dental sciences will be offered as mentioned in university website. Students can choose the open electives on their own choice.

The List of Open Electives

Faculty	Department	Courses for Semester-7		Courses for Semester-8	
		Course Code	Course Title	Course Code	Course Title
FET	AAE	OET401	Automotive Technology	OET451	Introduction to Aircraft Systems
	CE	OET402	Building and Interior Planning	OET452	Sanitation and Waste Management
	CSE	OET403	Development of Mobile Apps	OET453	Data Management and Analysis
	ECE	OET404	Fundamentals of Telecommunication	OET454	Electronic Devices and Appliances
	EEE	OET405	Renewable Energy Systems	OET455	Electrical Devices and Appliances
	MME	OET406	Computer Aided Design	OET456	Energy, Ecology and Environment
FAD	ID	OAD401	Textiles and Fashion Design	OAD451	Physical Model Making
		OAD402	Sketching and Painting	OAD452	Interior Design
				OAD453	Art, Culture and Short Film Making
FMC	MS	OMC401	Contemporary Management Practices	OMC451	Personal Finance
	COM	OMC402	Innovation and Entrepreneurship	OMC452	Digital Marketing and e-Commerce
FSH	Physics	OSH401	Physics in Everyday Life		
	Chemistry	OSH402	Chemistry of Batteries and Fuel Cells	OSH452	Beauty of Chemistry
	Mathematics	OSH403	Mathematical Reasoning		
FDS	DS	ODS401	Promotive Oral Health Care	ODS451	Dental Equipment and Technology (Dental Engineering)
FPH	PH	OPH401	Herbal Drugs	OPH451	OTC (Over the Counter) Medicines
FHMCT		OHM401	Hospitality at Home	OHM451	Art and Science of Cooking
DTSLD		OTL401	German Language	OTL451	Applied Popular Music
		OTL402	Yoga and Spirituality	OTL452	Fundamentals of Political Science
		OTL403	Theatre for all	OTL453	Society, Culture and Human Behaviour
		OTL404	Creative Writing	OTL454	French Language

Registrar

M.S. Hamdani
Bangalore - 560 054

Dean