



VIGNAN'S FOUNDATION FOR SCIENCE TECHNOLOGY AND RESEARCH UNIVERSITY:: VADLAMUDI

Department of Applied Engineering

Minutes of Board of Studies Meeting

16th April 2016

The following members were present for the Board of Studies meeting for B.Tech in Automobile Engineering held on 16-04-2016 at Vignan's University, Vadlamudi.

1. Dr. V. K. Tewari, Prof & Head, Ag & Food Engg Department, IIT Kharagpur (External member)
2. Dr. K. Madhu Murthy, Professor in MechEngg Dept., NIT Warangal (External member)
3. Dr. S M Bhawe, Scientist G, NSTL, Vizag (External member)
4. Prof. K. Annamaiaji, MIT, Anna University, Chennai (External member)
5. Mr. A. V. Krishna Kishore, Divisional Engg (General Division), Stage -4. Dr. NT TPS, Ibrahim Patanam-521456 (External member)
6. Mr. Pulkit Sharma, Tata Technologies, New Delhi (External member)
7. Mr. ZohebShadab, Tata Technologies, Bangalore (Invitee)
8. Dr. B. SeethaRamanjaneyulu, Dean (Academics). VFSTRU (Internal Member)
9. Dr. V. Madhusaudhan Rao, Dean (E &M). VFSTRU, (Internal member)
10. Dr. VidhuKampurath P. Head. Applied Engg Dept. VFSTRU (internal Member)
11. Mr. V R Bhaskara Rao, Visiting Faculty, Applied Engg Dept. VFSTRU (Internal Member)
12. Dr. NanjappaChetty, Visiting Faculty, Applied Engg Dept, VFSTRU (Internal Member)
13. Dr. A Sirisha, Asst Prof. Applied Engg, VFSTRU (Internal Member)
14. Dr. D. Vinay Kumar. Asst Prof. Applied Engg Dept. VFSTRU (Internal Member)
15. Dr. Sanjeet Kumar, Asst Prof, Applied Engg Dept. VFSTRU (Internal Member)
16. Mr. B. Harish Babu., Asst Prof. Applied Engg. VFSTRU (Internal Member)
17. Mr. S Krishna Chaitanya, Applied Engg Dept. VFSTRU (Internal Member)

The following were the agenda of the meeting:

1. R16 syllabus
2. Any other item with the permission of the chair.

Decisions taken:

Course structure:

- 1) Keen discussion was made on issue of having Minor courses and giving minor degree in some other branch. After discussing pros and cons, it is concluded that giving minor degree in other branches also instead of giving only in minor in management, humanities in IT sector would be ideal. Applied engineering department will suggest some open courses in each discipline with other streams also opt. thus number of minor streams would be increasing in the students would have the option to take from any of its interested.
- 2) In departmental electives subjects with labs should not be given.
- 3) Minor degree needed to specify in the certificate also so that the student gets full advantage of taking the stream.
- 4) Skill component can be done as a group task also, where individual practice is not viable.
- 5) Include variable frequency drive and inventor technologies for energy saving in syllabus, possible in product and solutions.

Syllabus :

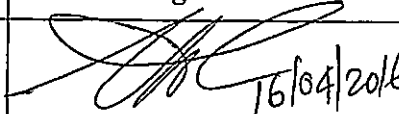
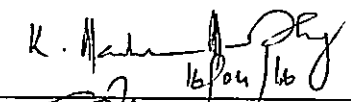
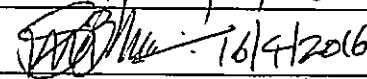
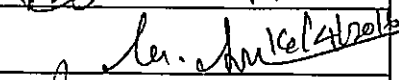
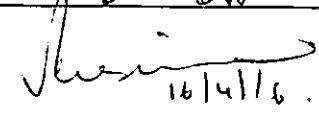
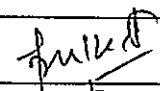

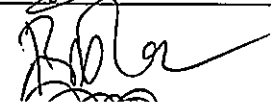
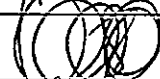
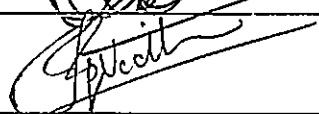

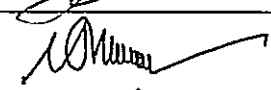
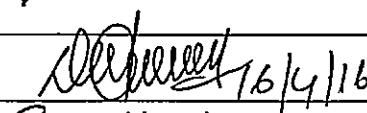
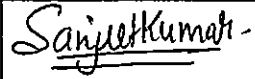
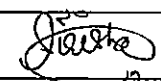
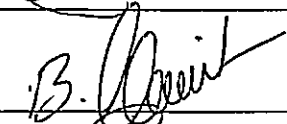

- 1) Manufacturing process should be shifted to 2nd year II semester. Instant material for automobile industry will come in 2nd Year I semester.
- 2) Topics in lean manufacturing and additive manufacturing should be added.
- 3) Include manufacturing execution system.
- 4) Modeling software like LS Dyna should be used for crash analysis to have the real time feeling for the students.
- 5) For any cost incurring labs, it should be established in a phased manner and where all branches can utilize effectively.
- 6) Add NVH topics in Automotive Safety.
- 7) Add Bio fuels in FICE subject.
- 8) Include Orsat Apparatus in Engineering Chemistry subject

The accepted structure is appended. (Appendix A).

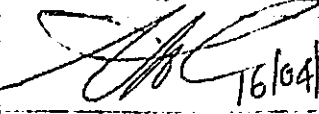
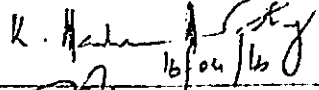

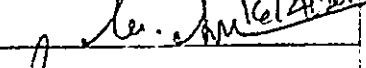
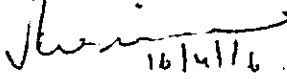
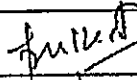



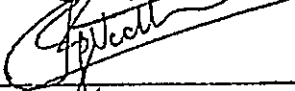

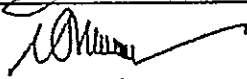
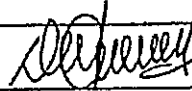
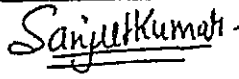
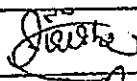
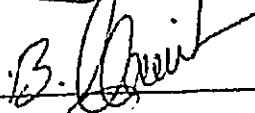
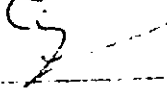
Outcomes of the meeting:

1. BOS members approved the revised curriculum (Structure, Syllabus and regulations) of B.Tech, Automobile Engineering and it follows Choice Based Credit System.
2. Major restructuring has taken place in the Curriculum with theory courses integrated with laboratory sessions.
3. All the Courses in the Curriculum are designed to fall under either of the domains of employability or skill development or Entrepreneurship. The mapping of the courses with employability or skill development is provided in Appendix I.
4. In all the courses of the revised curriculum (R16) substantial changes are made in the content in addition to the inclusion the list of new courses provided in Appendix II.
5. Stakeholder's feedback is collected, analyzed and given utmost priority while designing the curriculum and their suggestions are implemented.
6. Syllabus revision carried out 25%.

Board of Studies Members

S No	Name and Address	Signature
1	Prof. V. K. Tewari, Professor & Head, Agril. & Food Engg Dept., IIT, Kharagpur	 16/04/2016
2	Dr. K. Madhu Murthy, Professor in Mech Engg Dept., NIT, Warangal	 16/04/16
3	Dr. S M Bhave, Scientist G, NSTL, Vizag	 16/4/2016
4	Prof. K. Annamalai, MIT, Anna University, Chennai	 16/4/2016
5	Mr. A. V. Krishna Kishore, Divisional Engg (General Division), Stage -4, Dr. NT TPS, Ibrahim Patanam-521456	 16/4/16
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13	Dr. Vinay Kumar, Asst Prof. Applied Engg, VFSTRU	 16/4/16
14	Dr. Sanjeet Kumar, Asst Prof. Applied Engg, VFSTRU	 SanjeetKumar-
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17	Mr. S Krishna Chaitanya, Asst Prof. Applied Engg, VFSTRU	

Appendix-A

B.Tech. Automobile Engineering Course Structure

I YEAR I Semester

S.No.	Course Name	L	T	P	C
1	Engineering Mathematics I	3	1	2	5
2	Engineering Physics	3	-	-	3
3	Technical English Communication	3	-	2	4
4	Basics of Computers Internet	3	-	2	4
5	Computer Programming	3	1	2	5
6	Basics of Engineering Products	3	-	2	4
7	English Proficiency and Communication Skills	-	-	2	1
8	Engineering Physics Laboratory	-	-	3	2
	Total	18	2	15	28

I YEAR II Semester

S.No.	Course Name	L	T	P	C
1	Engineering Mathematics II	3	1	2	5
2	Engineering Chemistry	3	-	-	3
3	Engineering Graphics	1	-	3	3
4	Basics of Electrical and Electronics Engineering	3	-	2	4
5	Engineering Chemistry Laboratory	-	-	3	2
6	Material Science and Technology	3	1	-	4
7	Engineering Mechanics	3	1	-	4
8	Workshop Practice	-	-	3	2
	Total	15	2	13	27

II YEAR I Semester

S.No.	Course Name	L	T	P	C
1	Soft Skills Laboratory	0	-	2	1
2	Environmental Studies	2	-	-	2
3	Automotive Chassis	3	-	2	4
4	Engineering Thermodynamics and Heat Transfer	2	-	2	3
5	Fundamentals of IC Engines	3	-	2	4
6	Fundamentals of Motorsport Engineering	3	-	-	3
7	Materials for Automobile Industry	3	-	2	4
8	Employability and Life Skills Elective*				1-3
	Total	14	0	10	23-25

II YEAR II Semester

S.No.	Course Name	L	T	P	C
1	Advanced Theory of IC Engines	2	1	-	3
2	Strength of Materials	3	-	2	4
3	Manufacturing Processes for Automotive Components	3	-	2	4
4	Theory of Machines	2	2	-	3
5	Professional Communication Laboratory	-	-	2	1
6	Department Elective	4	-	-	4
7	Department / Open Elective	-	-	-	3-4
8	Employability and Life Skills Elective*	-	-	-	1-3
Total		14	3	6	23-26

III YEAR I Semester

S.No.	Course Name	L	T	P	C
1	Data Structures	3	-	2	3
2	Automotive Transmission	2	1	2	4
3	Two and Three wheelers Technology	2	1	-	3
4	Fluid Mechanics and Hydraulic Machines	3	-	2	4
5	Machine Design	2	1	2	4
6	Department Elective	-	-	-	3-4
7	Department Elective / Open Elective	-	-	-	3-4
8	Employability and Life Skills Elective	-	-	-	1-3
Total		1	3	8	25-29
		2			

III YEAR II Semester

S.No.	Course Name	L	T	P	C
1	Professional Ethics	2	-	-	2
2	Automotive Components Design	2	1	2	4
3	Special Purpose Vehicles	2	1	2	4
4	Vehicle Body Engineering	3	1	-	4
5	Vehicle Dynamics	3	1	0	4
6	Autotronics	3	-	2	4
7	Department Elective	-	-	-	3-4
8	Department / Open Elective	-	-	-	3-4
9	Employability and Life Skills Elective	-	-	-	1-3
Total		1	4	6	29-33
		5			

IV YEAR I Semester

S.No.	Course Name	L	T	P	C
1	Automotive Fuels, Emissions and Control	3	-	2	4
2	Electronics and Micro Controllers	3	-	2	4
3	Operations Research	3	1	-	4
4	Management Science	3	-	-	3
5	Department Elective				3-4
6	Department/Open Elective				3-4
7	Employability and Life Skills Elective				1-3
	Total	12	1	4	22-25

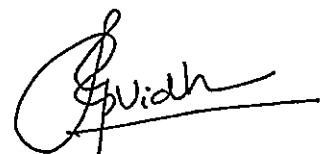
IV YEAR II Semester

S.No.	Course Name	L	T	P	C
1	Project Work/Internship (Internship Oriented Projects)			30	15
	Total	-	-	30	15

*The courses that are highlighted are offered under CBCS.

Department Electives Courses

S.No.	Course Title
1	Modern Vehicle Technology
2	New Generation and Hybrid Vehicles
3	Combustion in Engines
4	Nano Technology
5	Finite Element Methods
6	Automotive Aerodynamics
7	Engineering Metrology and Instrumentation
8	Engine Testing and Certification
9	Racing Two Wheeler and Four Wheelers
10	Motorsport Vehicle Analysis
11	Vehicle Maintenance
12	Automotive Air-Conditioning
13	Transport Management
14	Automotive Safety
15	Automotive Systems

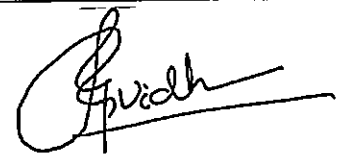


Chairman -BOS

Appendix-I

List of Courses That Enable Employability or Entrepreneurship or Skill Development in the R16 B.Tech- Automobile Engineering

YEAR	COURSE NAME	COURSE NATURE
II	Automotive Chassis	Skill development
II	Engineering Thermodynamics And Heat Transfer	Employability
II	Fundamentals Of I.C Engines	Employability
II	Fundamentals Of Motorsport Engineering	Employability
II	Materials For Automobile Industry	Employability
II	Advanced Theory Of IC Engines	Employability
II	Manufacturing Processes For Automotive Components	Skill Development
III	Modern Vehicle Technology	Employability
III	New Generation And Hybrid Vehicles	Employability
III	Engineering Methodology And Instrumentation	Employability
III	Autotronics	Skill Development
III	Two And Three Wheeler Technology	Skill Development
III	Vehicle Body Engineering	Employability
III	Data Structures	Employability
III	Automotive Component Design	Employability
III	Automotive Transmission	Skill Development
III	Special Purpose Vehicles	Employability
III	Vehicle Dynamics	Employability
IV	Automotive Fuels, Emissions And Control	Employability
IV	Electronics And Micro Controllers	Skill Development
IV	Project	Employability
IV	Internship	Employability
IV	Modular Course	Employability
E	Combustion Engines	Employability
E	Nanotechnology	Employability
E	Motorsport Vehicle Analysis	Employability
E	Vehicle Maintenance	Employability
E	Automotive Safety	Skill Development
E	Automotive Systems	Skill Development
E	Automotive Air-Conditioning	Employability
E	Finite Element Methods	Skill Development
E	Transport Management	Employability
E	Automotive Aerodynamics	Skill Development
E	Racing Two Wheeler And Four Wheeler	Employability
E	Engine Testing And Certification	Employability
OE	Basic Automobile Engineering	Skill Development
OE	Advanced Theory Of IC Engines	Employability
OE	Modern Vehicle Technology	Skill Development
OE	Two And Three Wheeler Technology	Skill Development
OE	Vehicle maintenance	Skill Development



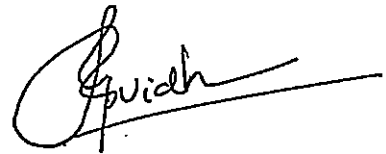
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Appendix –II

List of New Courses in the R-16 B.Tech Automobile Engineering

S.No	Semester (Year)	Course Name
1	II Year I Semester	Soft Skills Laboratory
2	II Year I Semester	Environmental Science And Technology
3	II Year I Semester	Automotive Chassis
4	II Year I Semester	Engineering Thermodynamics And Heat Transfer
5	II Year I Semester	Fundamentals Of Ic Engines
6	II Year I Semester	Fundamentals Of Motorsport Engineering
7	II Year I Semester	Materials For Automobile Industry
8	II Year II Semester	Advanced Theory Of Ic Engines
9	II Year II Semester	Strength Of Materials
10	II Year II Semester	Manufacturing Processes For Automotive Components
11	II Year II Semester	Theory Of Machines
12	II Year II Semester	Professional Communication Laboratory
13	II Year II Semester	Department Elective
14	II Year II Semester	Department / Open Elective
15	II Year II Semester	Employability And Life Skills Elective
16	III Year I Semester	Data Structures
17	III Year I Semester	Automotive Transmission
18	III Year I Semester	Two And Three Wheelers Technology
19	III Year I Semester	Fluid Mechanics And Hydraulic Machines
20	III Year I Semester	Machine Design
21	III Year I Semester	Department Elective
22	III Year I Semester	Department Elective / Open Elective
23	III Year I Semester	Employability And Life Skills Elective
24	III Year II Semester	Professional Ethics
25	III Year II Semester	Automotive Components Design
26	III Year II Semester	Special Purpose Vehicles
27	III Year II Semester	Vehicle Body Engineering
28	III Year II Semester	Vehicle Dynamics
29	III Year II Semester	Autotronics
30	III Year II Semester	Department Elective
31	III Year II Semester	Department / Open Elective
32	III Year II Semester	Employability And Life Skills Elective
33	IV Year I Semester	Automotive Fuels, Emissions And Control
34	IV Year I Semester	Electronics And Micro Controllers
35	IV Year I Semester	Operations Research
36	IV Year I Semester	Management Science
37	IV Year I Semester	Department Elective
38	IV Year I Semester	Department / Open Elective
39	IV Year I Semester	Employability And Life Skills Elective
40	IV Year II Semester	Project Work / Internship
41	Department Elective	Vehicle Dynamics
42	Department Elective	Combustion Engines
43	Department Elective	Nanotechnology
44	Department Elective	Motorsport Vehicle Analysis
45	Department Elective	Vehicle Maintenance
46	Department Elective	Automotive Fuels, Emissions And Control

47	Department Elective	Electronics And Micro Controllers
48	Department Elective	Automotive Safety
49	Department Elective	Automotive Systems
50	Department Elective	Automotive Air-Conditioning
51	Department Elective	Finite Element Methods
52	Department Elective	Transport Management
53	Department Elective	Automotive Aerodynamics
54	Department Elective	Strength Of Materials
55	Department Elective	Theory Of Machines
56	Department Elective	Machine Design
57	Department Elective	Vehicle Body Engineering
58	Department Elective	Data Structures
59	Department Elective	Fluid Mechanics And Hydraulic Machinery
60	Department Elective	Operations Research
61	Open Electives	Basic Automobile Engineering
62	Open Electives	Advanced Theory Of IC Engines
63	Open Electives	Modern Vehicle Technology
64	Open Electives	Two And Three Wheeler Technology
65	Open Electives	Vehicle maintenance



Chairman -BoS