



**Department of Mechanical Engineering**

**Minutes of the Second Board of Studies Meeting**

**Date :** 18.12.2019

**Time :** 10:30 am

**Venue :** Presentation Hall

The second Board of Studies Meeting of the Department of Mechanical Engineering was convened by **Dr.Zeenathul Farida Abdul Gani**, Professor and Head / Mechanical Engineering of Francis Xavier Engineering College in the **Presentation Hall** on 18<sup>th</sup> December, 2019 at 10:30am.

**External Members present:**

Sl. No.	Members as per UGC Norms	Members Nominated	Signature
1	Head of the Department concerned (Chairman)	<b>Dr.Zeenathul Farida Abdul Gani</b> Professor and Head Department of Mechanical Engineering Francis Xavier Engineering College Tirunelveli	
2	One Expert nominated by the Vice Chancellor from a panel of six recommended by the college Principal	<b>Dr.A.Krishnaveni</b> Associate Professor, Department of Mechanical Engineering, Government College of Engineering, Tirunelveli	
3	Experts in the subject from outside the college nominated by the Academic Council	<b>Dr.V.Senthil Kumar,</b> Associate Professor, Department of Production Engineering, NIT, Tiruchirapalli, TamilNadu	
4	One representative from industry/corporate sector/allied area relating to placement	<b>Mr.R.SrinivasaRaghavan</b> AVP, Manufacturing, Alliance Tire Group, Tirunelveli.	
5	One Post Graduate meritorious aluminous nominated by the Principal	<b>Mr.A.Arul Marcel Moshi</b> Assistant Professor, Department of Mechanical Engineering, National Engineering College, Kovilpatti.	





## Department of Mechanical Engineering

### MINUTES OF THE MEETING

The Head of the department Dr. Zeenathul Farida Abdul Gani welcomed the members of Board of Studies and all the department faculty members. The introductions about the external members were given by Dr. R. Samuel Hansen. The Head of the department presented the curriculum and syllabi framed in their department.

#### **Item 1.1 : Action Plan on First Board of Studies Meeting minutes** (Separate sheets attached)

#### **Item 1.2: Curriculum and Syllabi for UG Mechanical Engineering Programme**

The following queries and suggestions were raised by the external members

1. POs can be slightly modified to ensure department specific objectives.
2. The total hours of the subject for layer learning courses has to be increased to 75 periods from 60 periods.
3. Dynamics and Metrology lab can be merged as one laboratory course with 2 credits.
4. The title of the Computer Aided Modelling lab to be renamed as CAD / CAM laboratory
5. Computer Aided Analysis lab can be renamed as CAE lab
6. Elective courses on NC machines, 3 D printing, Automation, Servo control etc can be included.
7. Interpersonal Skill – Essential can be renamed as an Advanced Reading and Writing course under the EEC stream.
8. Tutorial hour has to be added for all analytical papers without altering the credit of the course.
9. The link for various online courses needs to be included in the list of Online courses.
10. The Electives can be categorized as groups with each group comprising of courses from all major streams of Mechanical Engineering.
11. The courses listed under Open Elective for the concerned semester can be listed as a single list.
12. The word in the first CO "Express" needs to be replaced with "select" in Finite Element Analysis.



## Department of Mechanical Engineering

13. The course outcome of Dynamics of Machines (CO 5) can be rewritten as "carryout the Performance characteristics of the governor".
14. Two degrees of freedom to be added in the course of Dynamics of Machines under unit IV.
15. CO - PO mapping needs to be better indicated by three levels - High , Medium, and Low.
16. Unit III in Metrology and Measurement can be moved as Unit V
17. The course outcomes of Design of Machine Elements comprise more of Apply term and can be redefined.
18. Text books and Reference books need to be upgraded from V semester.
19. Web sources can be added for the entire courses.
20. More Industry based Electives can be included in the elective list.
21. The fourth unit in Engineering Thermodynamics can be moved to Thermal Engineering as first unit and fifth unit in Thermal Engineering can be Refrigeration and Air conditioning systems.

### Item 1.3: Curriculum and Syllabi for PG Mechanical Engineering Programme

The following queries and suggestions were raised by the external members

1. The PSOs and POs need to be redefined for Industrial Engineering
2. The thrust areas like Block Chain, Cyber Security can be added in elective list.
3. SPSS can be included in Probability and Statistical Methods course.
4. The course on Research Methodology can be refined with the contents available in Research Methodology course offered by the Faculty of Technology, University Departments
5. The content for the Professional Elective such as Plant Layout and Materials Handling, Work study and Ergonomics and Maintainability Engineering has to be referred from CEG, University Departments.
6. Optimization Techniques needs to be included in the elective list.
7. Online web resources should be included in the references.



**Department of Mechanical Engineering**

**Item 1.4: Industry specific course**

1. Few industry specific courses can be included in Elective list.

**Item 1.5: Value added course**

1. The title provided in the Value Added Course needs to be renamed and the product name should be removed.

The meeting came to an end with a thank you note by the Head of the Department.

**Chairman**  
**Board of Studies**  
**Department of Mechanical Engineering**





## Department of Mechanical Engineering

### ACTION PLAN FOR FIRST BOARD OF STUDIES COMMENTS

#### Item 1.1: Curriculum and Syllabi for UG Mechanical Engineering Programme

Item No	Minutes – Comments	Action plan	Reference
1	Dr.Senthil Kumar suggested that Physics can be offered in the first semester rather than having Statics and Dynamics in the first two semesters. He suggested having atomic physics, Optics, Laser, crystallography and electrodynamics in that course. Statics and Dynamics can be given as Engineering Mechanics	Physics has been added in the first semester and Engineering mechanics has been offered in the second semester	Page No. 24
2	Mr.Arul Marcel Moshi suggested naming Statics and Dynamics as Mechanics of rigid bodies and Mechanics of Deformable bodies respectively for clarity about the scope of the course	Not included as it is given as a single course	Page No. 43
3	Dr.Senthil Kumar suggested incorporating the mathematics syllabus given in GATE in the Maths course offered in the first two semesters.	Gate content incorporated	Page 22, 37, 50
4	Dr.Senthil Kumar and Dr.Krishnaveni suggested to reduce the credits for English or to have English Lab as a non credit course to improve the proficiency of the students	Non credit Mandatory course on English has been added in all semesters	Page 11,12,13,14
5	Dr.Senthil Kumar suggested having programmes in computer programming that is more logical and analytical	Already included	Page No 29







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## Department of Mechanical Engineering

6	Dr.Krishnaveni suggested having layer learning for Engineering Graphics with increased credit of 4. Dr.Senthil Kumar agreed upon that but insisted to have the same credit of 3	Engineering Graphics could not be made Layer learning as it is common for all disciplines	Page No. 31
7	Dr.Krishnaveni suggested to change the course titles to Kinematics of Machinery to Kinematics of Machines and Machine Design to Design of Machine Elements	Titles changed as Kinematics of Machines and Design of Machine Elements	Page No. 72, 89
8	Mr. SrinivasRaghavan found it good to have Polymer Technology in Elective list and he mentioned that he will support in framing the syllabus and deputing staff for teaching that subject	Already included	Page No. 114
9	Dr.Senthil Kumar and Mr.SrinivasRaghavan suggested keeping Professional Ethics, (tailor made courses on) Environment & Safety and Economics & Foreign Trade as Professional Core under HS category so that the credentials needed under HS can be attained	Professional Ethics included as core course under HSS	Page No. 82
10	Dr.Senthil Kumar suggested reducing the credit for Design and Fabrication to 2	Credit changed to 2	Page No 102
11	Dr.Senthil Kumar and Dr.Krishnaveni suggested giving credits to Internships with proper evaluation	Internships will be given credit and that is over and above the mandatory 163 or 123 credits	Given in regulation

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12	Dr.Senthil Kumar instructed to use the recent and new reference and text books, published after 2010 for advanced courses	Included	All courses
13	Dr.Senthil Kumar and Mr. Moshi insisted on having the course outcomes based on Blooms Taxonomy	It has been made	All courses
14	Dr.Krishnaveni felt that the strength of thermal courses in elective list as minimum and suggested to increase the number of thermal based electives	Thermal Courses included in the professional electives	Page 15-17
15	Dr.Senthil Kumar and Dr.Krishnaveni suggested integrating FEA and Analysis lab as one course	FEA is made elective in 6 <sup>th</sup> semester and Analysis lab is also in 6 <sup>th</sup> semester. However, Layer learning is not possible	Page No. 13 and 15
16	Mr. Moshi suggested to use Virtual learning offered by Amirtha University	Will be carried out when the student reach higher semesters	-
17	Dr.Krishnaveni suggested to include online learning courses like spoken tutorial offered by ITTB and some other open sources for online learning	Will be carried out when the student reach higher semesters	-
18	All the members suggested having uniform number of COs	Uniform of 5 COs have been defined for all courses	All courses

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## Department of Mechanical Engineering

19	Dr.Krishnaveni suggested to refer Anna University CEG syllabus for further reference	All the electives and advanced courses are referred from Anna University syllabus	All courses
20	All the members suggested to have a separate course on Engineering Materials and Metallurgy	Course included in third semester	Page No. 58
21	Dr.Senthil Kumar suggested to have the following Electives 1. Reliability Engineering , 2. Laser Processing 3. Micro / Nano Machining , 4. Product Development 5. Lean Manufacturing, 6. Combustion Technology 7. Alternate Fuels, 8. Industrial Automation 4.0	Most of the electives included except Laser processing and Micro / Nano machining. Will be included in the VII and VIII semester electives	Page No 15-17
22	Dr. Senthil kumar & Dr.Krishnaveni suggested having comprehension in the VII semester	Comprehension included	Page No 14

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### Item 1.2: Curriculum and Syllabi for PG Mechanical Engineering Programme

Item No	Minutes - Comments	Action plan	Reference
1	Mr. Srinivasa Raghavan suggested including 45001:2018 instead of OHSAS as OHSAS is currently replaced by ISO standards	Included	Page No 67
2	Mr. Srinivasa Raghavan suggested to add "Behaviour Based safety" as a course	Course included as mandatory non credit course	Page No 31
3	Dr. V. Senthil Kumar suggested including "Safety in Engineering Industry" instead of "Plant Layout and Material Handling" as core course	Safety in Engineering Industry is offered as core course and Plant Layout and Material handling is moves to elective list	
4	Dr. Krishnaveni suggested few modifications in the course outcomes of Reliability Engineering	Course outcome has been changed	Page No 36
5	Dr. Krishnaveni suggested to refine the course objectives of Work study and Ergonomics	Course outcome has been changed	Page No 41
6	Dr. Krishnaveni suggested to include more references for the course OHSAS 18000, ISO 14000 and ISO 9000.	Included	Page No 67







## Department of Mechanical Engineering

### Item 1.3: Industry specific course

Item No	Minutes - Comments	Action plan	Reference
1	Mr. Srinivasa Raghavan found it good to have Polymer Technology in Elective list and he mentioned that he will support in framing the syllabus and deputing staff for teaching that subject	Included in the curriculum	Page No 114
2	He also added that he can support with personnel to teach courses like TQM, PPCE, PPC offered for UG and also some courses in PG	Accepted with gratitude	-

### Item 1.4: Value added course

Item No	Minutes - Comments	Action plan	Reference
1	Dr.Senthil Kumar suggested having Matlab, Statistical software and Analysis software like Deform, Fluent, Abacus, Comsol and modelling software like CREO	VAC included	Page No 18
2	Dr.Senthil Kumar suggested to make the students to know about SETSCO courses and he also mentioned that the course fee as slightly higher.	Will be considered during higher semester	-





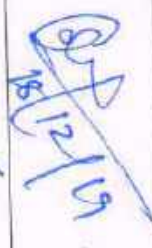






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3	Two experts in the subject from outside the college nominated by the Academic Council	<b>Dr.V.Senthil Kumar</b> , Professor, Department of Production Engineering, NIT, Tiruchirappalli, TamilNadu <b>Dr.A.Ramesh</b> , Professor, Department of Mechanical Engineering, IIT, Madras, Chennai - 600 036	 15/12/19
4	One representative from industry/corporate sector/allied area relating to placement	<b>Mr.R.SrinivasRaghavan</b> AVP, Manufacturing, Alliance Tire Group, Tirunelveli.	
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