

Department of Mechanical Engineering

MINUTES of 15th Meeting of the Board of Studies held on
26th June, 2021 at 10.30 a.m. (through Online mode)
Google meet Link: meet.google.com/hgs-cguc-jfx

Venue: Seminar Hall, Department of Mechanical Engineering,
National Engineering College

National Engineering College, K.R.Nagar, Kovilpatti – 628 503

(An Autonomous Institution - Affiliated to Anna University, Chennai)

www.nec.edu.in

Department of Mechanical Engineering

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15th Board of Studies Meeting
Department of Mechanical Engineering

Venue: Seminar Hall, Department of Mechanical Engineering,
National Engineering College

Date & Time: 26.06.2021 & 10.30 a.m.

Through Online Mode

Google Meet Link: meet.google.com/hgs-cguc-jfx

AGENDA

BoS / MECH15.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the department of Mechanical Engineering
BoS / MECH15.2	:	Confirmation of the Minutes of the 14 th meeting of Board of Studies in the department of Mechanical Engineering held on December 19, 2020 and Action taken report of 14 th meeting of Board of Studies
BoS / MECH15.3	:	Business brought forward by the Chairman, Board of studies
	15.3.1	Syllabus for Professional Elective Courses (Manufacturing Module) in B.E. Mechanical Engineering Programme under Regulation 2019.
	15.3.2	Syllabus for Professional Elective Courses (Industry Engineering Module) in B.E. Mechanical Engineering Programme under Regulation 2019.

	<p>15.3.3</p> <p>15.3.4</p> <p>15.3.5</p> <p>15.3.6</p> <p>15.3.7</p>	<p>Syllabus for Open Elective Courses – IV (Management Skills) in III-year B.E Mechanical Engineering Programme under R2019.</p> <ol style="list-style-type: none"> 1. Entrepreneurship 2. Human Resource Management 3. Industrial Psychology and Organizational Behavior 4. Principles of Management 5. Business Statistics 6. Financial Management <p>7. Accounting for Engineers</p> <p>8. Security Analysis and Portfolio Management</p> <p>Inclusion of 3 credit course on “Hybrid Electric Vehicles” as a programme elective under Thermal Module.</p> <p>Syllabus for One Credit Elective Courses in B.E. Mechanical Engineering Programme under Regulation 2019.</p> <p>Discussion of statement of Program Specific Outcomes (PSO) of Mechanical Engineering Department.</p>
BoS / MECH15.4	:	Suggestions given by the BOS Members
BoS / MECH15.5	:	Any other items

National Engineering College, K.R.Nagar, Kovilpatti – 628 503
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F. No. 1-1/NEC/ MECH

26th June, 2021

Dear Sir/Madam,

Sub: Minutes of the 15th Meeting of the Board of studies in the Mechanical Engineering - Reg.

Kindly find attached herewith the Minutes of the 15th Meeting of Board of studies of the Mechanical Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628503 held on 26th June 2021 at 10.30 a.m. (through Online mode) in Seminar Hall, Department of Mechanical Engineering, National Engineering college. Hard copy of the Minutes is also being sent to you by speed post.

It is requested that comments on the Minutes, if any, may please be sent by email at hodmech@nec.edu.in or by post, at the earliest. If no comments are received, within ten days, the Minutes shall be taken as confirmed. With Kind Regards,

Yours Sincerely,

(Dr.K.Manisekar)

Department of Mechanical Engineering

MINUTES OF THE MEETING

The 15th Meeting of the Board of studies of the Mechanical Engineering was held on 26th June 2021 at 10.30a.m. through online mode (Google Meet Link: meet.google.com/hgs-cguc-jfx) in the Seminar Hall, Department of Mechanical Engineering, National Engineering College, K.R.Nagar, Kovilpatti – 628 503

1. The following members were present

1.	Dr.K.Manisekar, Professor & Head	Chairman
2.	Dr.S.Iyah Raja, Asso. Professor	Internal Members
3.	Dr.D.Venkat Kumar, Asso. Professor	
4.	Dr. M.Kathiresan, Asso. Professor	
5.	Dr. R.Harichandran, Asso. Professor	
6.	Dr.I. Sankar, Asst.Professor (S.G)	
7.	Dr.D. Vignesh Kumar, Asst. Prof. (S.G)	
8.	Dr.P.Ramanan, Asst. Professor (S.G)	
9.	Dr.F.Michael Thomas Rex, Asst. Prof. (S.G)	
10.	Dr. P. Hariharasakthisudhan, Asst. Prof. (S.G)	
11.	Dr. T. Sakthi, AP/Humanities	
12.	Mr. A.Andrews, Asst. Professor	
13.	Mr. C.Suresh Kumar, Asst. Professor	
14.	Mr.S.S.Ananthan, Adjunct Faculty	
15.	Mr. M.Vivekanandan, Adjunct Faculty	
16.	Dr.D.Mohanlal, Professor, Department of Mechanical Engineering, CEG campus, Anna university, Chennai-600 025	University Nominee
17.	Dr. R. Velraj Professor / Institute for Energy Studies, CEG, Anna University, Chennai	Academic Experts
18.	Dr.-Ing. M. Duraiselvam Professor / Production Engineering, National Institute of Technology, Trichy	
19.	Dr.A.Arockiarajan Professor / Applied Mechanics, Indian Institute of Technology, Chennai	

20.	Mr. R. Kanda Subburaj Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	Industrial Experts
21.	Mr. Vinoth Kumar. M Plant Head, Interplex Electronics India Pvt. Ltd., Chennai	
22.	Dr. K. Murugan Scientist –E, Centre for Engineered Coatings (CEC), ARCI, Hyderabad – 500 005, Telangana	Meritorious Alumnus Nominated by the Principal
23.	Mr. C. Surya, III Year Student	Student Members
24.	Mr. J. Sam Joebin, III Year Student	
25.	Mr. W.Robin, III Year Student	
26.	Mr. X.Cheselton, III Year Student	

2. The Industrial Expert Members Mr.P.Muniyandi, Principal Scientific Officer, Bharat Earth Movers Limited, New Thippasandra, Bengaluru and Mr.P.S.Sriram, Director (Industrial), Alstom Transport India Ltd., Chennai could not attend the meeting due to their prior commitments and unavoidable reasons and they were granted leave of absence.

BoS / MECH15.1 : WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF MECHANICAL ENGINEERING

The Chairman, BOS of the Mechanical Engineering welcomed and introduced the members of 15th Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS / MECH 15.2 : TO CONFIRM THE MINUTES OF FOURTEENTH BOS MEETING HELD ON 19th December, 2020

The minutes of the Fourteenth Board of Studies meeting held on 19th December, 2020 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by

the 14th Academic council. (Enclosed in Annexure – I)

BoS / MECH 15.3.1 : **TO CONFIRM AND APPROVE** the syllabus of Professional Elective Courses (Manufacturing Module) in B.E. Mechanical Engineering Programme under R-2019.

(Enclosed in Annexure – II)

RESOLVED TO APPROVE the syllabus of Professional Elective Courses (Manufacturing Module) in B.E. Mechanical Engineering Programme under R-2019.

BoS / MECH 15.3.2 : **TO CONFIRM AND APPROVE** the syllabus of Professional Elective Courses (Industry Engineering Module) in B.E. Mechanical Engineering Programme under R-2019.

(Enclosed in Annexure – III)

RESOLVED TO APPROVE the syllabus of Professional Elective Courses (Industry Engineering Module) in B.E. Mechanical Engineering Programme under R-2019.

BoS / MECH 15.3.3 : **TO CONFIRM AND APPROVE** the syllabus of open elective courses Group – IV (Management Skills) in B.E. Mechanical Engineering Programme under R-2019.

(Enclosed in Annexure – IV)

RESOLVED TO APPROVE the syllabus of open elective courses Group – IV (Management Skills) in B.E. Mechanical Engineering Programme under R-2019.

BoS / MECH 15.3.4 : **TO CONFIRM AND APPROVE** a 3-credit course on “Hybrid Electric Vehicles” as a programme elective under Thermal Module.

(Enclosed in Annexure – V)

RESOLVED TO APPROVE a 3-credit course on “Hybrid Electric Vehicles” as a programme elective under Thermal Module.

BoS / MECH 15.3.5 : **TO CONFIRM AND APPROVE** the syllabus of One Credit Elective Courses in B.E. Mechanical Engineering programme under R-2019

(Enclosed in Annexure – VI)

RESOLVED TO APPROVE the syllabus of One Credit Elective Courses in B.E. Mechanical Engineering programme under R-2019

BoS / MECH 15.3.6 : **TO CONFIRM AND APPROVE** the statement of Program Specific Outcomes (PSO) of Mechanical Engineering Department.

(Enclosed in Annexure – VII)

DISCUSSED AND RECOMMENDED the statement of Program Specific Outcomes (PSO) of Mechanical Engineering Department.

BoS / MECH 15.4 : **Suggestions Given by the Members**

15.4.1 : Interchange the Unit 2 as Unit 3 and Unit 3 as Unit 2 in the syllabus of programme elective course, “Composite Materials”. Wire arc additive manufacturing topic may be included in the syllabus of programme elective course “Additive Manufacturing”.

15.4.2 : Advanced Testing may be incorporated in “Non-Destructive Evaluation” course as Unit 5. Also combine the Unit 2 and Unit 3 as a single unit. IS 814 and 7215 standards may be included in “Quality Control of Welded Structures”

15.4.3 : Automated Tools may be included in Unit 5 in the syllabus of “Operations and Production Management”. Objective of Value analysis may be added in the syllabus of “Value Analysis and Value Engineering” in Unit 1.

15.4.4 : Green supply chain topic may be included in Unit 1 and some Models/examples may be given in Unit 5 in the programme elective course, “Supply Chain and Logistic

Management”

- 15.4.5 : The syllabus of “Industrial Safety Engineering” may be revised. Data collection from sensors may be included in “Industry 4.0”.
- 15.4.6 : Skill matrix to evaluate performance topic may be included in Unit 2 in the syllabus of “Human Resource Management”.
- 15.4.7 : Uses and Standards of Tubular Exchanger Manufacturers Association may be added in the syllabus of 1 credit course “Shell and Tube Heat Exchanger Design”. Data sheet as per Bureau of Energy Efficiency (BEE) and Heat load estimation as per BEE to be followed and spray bonds topic may be removed from the one credit course “Energy Audit and Management”.
- 15.4.8 : “Heat Transfer Enhancement” one credit course may be removed from the curriculum, since it is only a research-oriented topic and it will not be much beneficial for the students. Specific properties/tools may be given in the syllabus of “Thermal Characterization of Materials”
- 15.4.9 : Storage devices for Microgrids topic may be added in “Micro Grid” and Forward osmosis topic may be included in “Desalination”
- 15.4.10 : Error analysis topic may be included in “Techniques for Vibration Monitoring and Controls”. Introduction and difference between plates and shells may be added in “Crashworthiness of Tubular Shells”. Surface texturing concept may be included in “Surface Engineering”
- 15.4.11 : Application of Management concept also may be added in the third statement of Program Specific Outcomes (PSO) of Mechanical Engineering Department.

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the curriculum and syllabus of R2019.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

- a) Syllabus for Professional Elective Courses (Manufacturing and Industry Engineering Module) in B.E. Mechanical Engineering Programme under Regulation 2019.
- b) Syllabus for Open Elective Course (Group – IV) in III-year B.E. Mechanical Engineering Programme under Regulation 2019.
- c) Inclusion of 3 credit course on “Hybrid Electric Vehicles” as a programme elective under Thermal Module.
- d) Syllabus for One Credit Elective Courses in B.E. Mechanical Engineering Programme under Regulation 2019.

Dr. S.Iyahraja, Associate Professor / Mechanical Engineering thanked all the members for their kind cooperation and the meeting came to an end.

Members Present Online

Dr.D.Mohanlal, Professor, Department of Mechanical Engineering, CEG campus, Anna university, Chennai-600 025	<i>University Nominee</i>
Dr. R. Velraj, Professor & Director, Institute for Energy Studies, CEG, Anna University, Chennai-600025	<i>Academic Experts</i>
Dr.-Ing. M. Duraiselvam, Professor, Department of Production Engineering, NIT, Trichy	
Dr. A.Arockiarajan Professor, Department of Applied Mechanics, Indian Institute of Technology, Chennai	
Dr. K. Murugan, Scientist –E, Centre for Engineered Coatings (CEC), ARCI, Hyderabad – 500 005, Telangana	<i>Meritorious Alumnus</i>

Mr. R. Kanda Subburaj, Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	<i>Industrial Experts</i>
Mr. Vinoth Kumar. M, Plant Head, Interplex Electronics India Pvt. Ltd., Chennai	

Members Present

<i>Chairman</i>	
Dr.K.Manisekar, Professor & Head	h.u-82
<i>Internal Members</i>	
Dr.S.Iyah Raja, Asso. Professor	S.Iyah Raja
Dr.D.Venkat Kumar, Asso. Professor	D.Venkat Kumar
Dr. M.Kathiresan, Asso. Professor	Online
Dr. R.Harichandran, Asso. Professor	R. Harichandran
Dr.I. Sankar, Asst. Professor (S.G)	online
Dr.D. Vignesh Kumar, Asst.Professor (S.G)	Vignesh Kumar
Dr.P.Ramanan, Asst Professor (S.G)	P.Ramanan
Dr.F.Michael Thomas Rex, Asst. Professor (S.G)	online
Dr. P. Hariharasakthisudhan, Asst. Professor (S.G)	online
Dr. T.Sakthi, AP/Humanities	T.Sakthi
Mr. A.Andrews, Asst. Professor	online
Mr. C.Suresh Kumar, Asst. Professor	C.Suresh Kumar
Mr.S.S.Ananthan, Adjunct Faculty	online
Mr. M.Vivekanandan, Adjunct Faculty	online
<i>Student Members Nominated by the HOD</i>	
Mr. C. Surya, III Year Student	online
Mr. J. Sam Joebin, III Year Student	online
Mr. W.Robin, III Year Student	online
Mr. X.Cheselton, III Year Student	online

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**CHAIRMAN
BOARD OF STUDIES**