

13-04-2019

Minutes of the BOS Meeting in School of Mechanical Engineering

The meeting of the BOS in Mechanical Engineering was held on 13th April 2019 at 10.00am in the Office of the School Head, Mechanical Engineering, KLE Technological University, Hubballi.

The meeting began with the Chairman welcoming members of the BOS and other invited faculty and student members. The following agenda points were taken up for discussion.

Agenda 1:

Review of actions initiated in the last meeting.

Resolution 1:

The actions initiated in the previous BOS held on 7th April 2018 were reviewed and minutes of the last meeting were confirmed.

The action taken report presented to the board was approved by the members.

The Chairman informed the members about the Industry Advisory Board meeting held on 23rd March 2019 and presented the salient features which would be considered during the meeting.

Agenda 2:

Review of Syllabus of UG program

Resolution 2:

The School Head presented the curriculum changes for UG program.

Board reviewed and appreciated the Program syllabi for its flexibility with respect to student learning and enhancing employability prospects. The Mechatronics and Control Engineering courses were suggested revisions in terms of re-allotment in number of teaching hours and suitable pedagogical interventions in delivery.

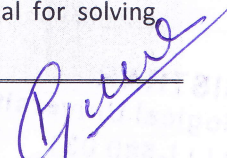
The study on sensor - 1st order/2nd order/steady/transient response to be investigated in detail while electronic concepts related to interface design may be restricted to introductory level. Electro-mechanical actuators can be given more emphasis, selection of AC/DC drives, Pneumatics can be part of Control/ Mechatronics study.

Revisions were also suggested in the course on 'Finite Element Methods'. Revisions to the existing curriculum were focused on post processing techniques in software tools and data acquisition for experimental validation. To cover the case studies pertaining to industrial field issues, numerous examples were included in the curriculum. The associated lab introduced with complex engineering challenges as exercises. Further, the students were expected to publish papers on their laboratory work.

The course CAD Modelling and PLM (2-0-2) introduced with 15hr/week hands-on immersive training experience, with a focus on Exposure to system building from components/sub-systems. Emphasis on 2D, 3D drafting, generation of BOM, GD&T, exploded view and rendering features was increased. Also, included Product development and Reverse Engineering as an extension to create industry-like learning environment through virtual Projects (Mini Project).

The experts from Mathematics suggested modifications in 'Numerical Methods and Partial Differential Equation' course: Python programming was introduced as a tutorial for solving engineering problems to help students get better insight.




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The courses Machine Drawing and Manufacturing Processes II were introduced in place of Engineering Design & Product Realization which was to become the theme of Minor Project. The members approved the change.

The courses *Advanced Statistics and Machine Learning* and *Machine Learning Applications* introduced as niche verticals in view of job prospects in engineering services sector was highly appreciated and approved for implementation.

The verticals on E-Mobility elective were introduced after consultations with experts from Altair - *Vehicle Structure and Design Optimization* and *Dynamics & Durability of Vehicles*. The external members both from academia and industry were in alignment in approving the courses for implementation as the field is upcoming both for entrepreneurship potential and employability.

Another elective course on Applications of Vibrations and acoustics was introduced after extensive interaction with M/s Josts – a leading company in the field of NVH. The BOS approved the course for implementation.

The Industry internship/project during 8th sem to ensure a longer duration Industrial contact for students leading to their employability was approved for implementation.

The scheme and curriculum from 1st sem to 8th sem for respective admission batches was approved.

Agenda 3:

Review of Syllabus of PG program

Resolution 3:

The Machine Design/Production Management/Energy Systems Engineering M.Tech. Programs were provisioned longer industry stay for students with entire 3rd sem for Industrial training/project got BOS approval.

The course **Computational Methods in Engineering Analysis** for MD /ESE Programmes was approved with suggestions to have concepts of statistics, probability and random events.

In Machine Design Programme, Thermal stress module has been introduced in **Mechanics of solids** course to focus on thermo elastic stress-strain relations of thin circular disk, long circular cylinder, and straight beams.

The Energy Systems Engineering Programme proposed a new course titled **Economic aspects of Energy conversion** to cover economic aspects of energy conversion. The changes were approved with suggestion to give due stress on analytical aspects.

The Production Management Programme proposed a course on **Research Methodology** with orientation towards research practice covering research techniques and statistical tools. The change has been appreciated and approved by BoS members.

To enhance employment opportunities to graduating students a thorough hands-on experience on PLM/ERP tools is essential, therefore Mini Project course was introduced at the 2nd semester.

The practice oriented initiative was duly appreciated and approved.

The curriculum scheme and structure from 1st sem to 4th sem for respective admission batches was approved.

Agenda 4:

New initiatives

Resolution 4:

The initiatives to help student learn and acquire niche skill sets in *Product Lifecycle Management (PLM)* (6 credit, 2 elective, 160 hr), *Advanced CAE* (6 credit, 2 elective, 160 hrs) and minor program

– *Advanced Manufacturing for Aerospace Applications* (15 credit, 5 course, 320 hrs + Project at AEQUS campus), were three verticals that resulted in 45 student placements. (Recruitment orders expected by last week of May 2019).

Employment Initiatives for Production Management PG program through revamped curriculum with focus on PLM and ERP to facilitate student employability in Engineering Services Industry.

The School is working on other potential verticals for UG program in *Machine Learning*, *E-mobility* and *Digital Twin*, the detailed syllabi will be shared with BOS members through email for approval.

The collaborative efforts being made by the School with the Dassault Systems, Altair, Bosch and AEQUS in designing the niche verticals was appreciated by the members.

The new initiatives and the efforts by the faculty members were encouraged.

Agenda 5:

Status of Minor Programs

Resolution 5:

The status of all four minor programs - *Innovation and Product Development*, *Automotive Engineering*, *Bio-Engineering* and *Advanced Manufacturing for Aerospace Applications* was presented.

The status of Minor Programs was reviewed and endorsed by the BOS.

Agenda 6:

Student Performance

Resolution 6:

The student achievements in curricular, co-curricular and extra-curricular activities were presented. The experiential and contextualized learning opportunities created by the School in various courses helped students perform consistently in their regular academics and acquire the relevant technical and professional skills. Students' engagement in research was visible through their active participation in REU course leading to many publications, one of which has won 1st prize in an international conference. A team of students has won prestigious All India National Meritorious Invention Award for their product 'Smart FOB' under the category 'National Budding Innovators' organized by NRDC and Ministry of Science & Technology, successively second time with a prize money of Rs. 1,00,000/-. The Motor Sports club participated in SAE India E-BAJA, M-BAJA and SUPRA competitions and won no. of awards. A team of aeroKLE – an aero modelling club participated first time in National level SAE India Aero Design Challenge 2018 competition and got All India 8th Rank.

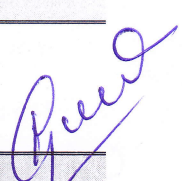
The overall student performance in UG and PG Programmes were discussed and approved.

Agenda 7:

Review of Research progress

Resolution 7:

The on-going research activities in the School, publication and citation details and patents filed by the faculty were discussed. The initiative at KLETU Research Centre to promote an inclusive


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research through SRG, ERG and ERS group was presented with special focus on REU and REEF courses.

The members reviewed and approved the proposed initiatives with suggestion to actively continue research.

Agenda 8:

Review of OBE framework of the School

Resolution 8:

The OBE initiatives and attainment of Program Outcomes along with Program Specific Program outcomes were closely reviewed and appreciated.

The PEOs and POs were also reviewed for their relevance and approved for continuation.

Agenda 9:

Initiative for attainment of key results

Resolution 9:

The School initiatives in alignment with University guidelines to enhance operational efficiency were presented.

The four objectives and the key results (OKRs) were approved with due appreciation to the efforts made.

Agenda 10:

Any other matter with the permission of the chair

Resolution 10:

The changing placement scenario for mechanical engineering students was discussed in the backdrop of IT companies not hiring non-IT graduates from the current year. The expectation of niche skill sets by core companies has prompted the school to identify industry relevant verticals to get the students employed. In the process a dilemma in curriculum design arises that should imbibe niche skill sets without compromise on fundamental concepts. The members cited similar experiences and suggested incremental mode of growth was relevant in present context as practiced by the school. At no point of time, emphasis on fundamental core courses should be diluted, the members opined.

The board empowered the chairman to revise/modify curriculum structure and syllabus wherever required, if circumstances so demand and the same could be ratified in the next meeting.

The meeting was concluded with vote of thanks by the Chairman.

Enclosed:

1. UG Program – Structure and Syllabus

- i. 2016 - 2020 batch
- ii. 2017 - 2021 batch
- iii. 2018 - 2022 batch
- iv. 2019 - 2023 batch


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2. PG Program – Structure and Syllabus

- i. Production Management
 - a. 2018 – 2020 batch
 - b. 2019 – 2021 batch
- ii. Energy Systems Engineering
 - a. 2018 – 2020 batch
 - b. 2019 – 2021 batch
- iii. Machine Design
 - a. 2018 – 2020 batch
 - b. 2019 – 2021 batch

3. Minor Program

- i. Innovation and Product Development
- ii. Automotive Engineering
- iii. Bio-engineering
- iv. Advanced Manufacturing for Aerospace Applications

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Members of BOS in Mechanical Engineering

S.No.	Name	Profession	Full Postal Address	Position	Signature
1.	B B Kotturshettar	Professor & Head of the School/ Department	Professor & Head, Mechanical Engineering	Chairman	
2.	N R Banapurmath	Professor, Dean's nominee	Professor, Mechanical Engineering	Member	
3.	S B Burli	Associate Professor Dean's nominee	Associate Professor, Mechanical Engineering	Member	
4.	P M Bhovi	Assistant Professor Dean's nominee	Assistant Professor, Mechanical Engineering	Member	
5.	Dr. Nagesha N.	Subject expert from outside the college nominated by the Vice-Chancellor	Professor, Department of studies in Industrial and Production Engineering, University B D T College of Engineering, Davangere	Member	
6.	Dr. S V Prabhu	Subject expert from outside the college nominated by the Vice-Chancellor	Professor Department of Mechanical Engineering, Indian Institute of Technology, Bombay. Professor, Indian Institute of Technology, Dharwad	Member	 13/4/19
7.	Veeresh Vastpad Bashant Marikatti	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Principal Engineer Quest Global, Belgaum	Member	 13/04/19
8.	Dr. Prasanna G Bhat	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	General Manager, Powertrain Engineering, The Automotive Research Association of India, S.No. 102, Vetal Hills, Off Paud, Kothrud, Pune	Member	 13/04/19

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S.No.	Name	Profession	Full Postal Address	Position	Signature
9.	S B Menon	Post-graduate meritorious alumnus nominated by the Vice-Chancellor	CEO Unique Circle Group, Pimpri Chinchwad, Pune	Member	
10.	<i>Student Representatives</i>	Student Member representing each of the program offered by the Department/ School/ Center	<i>Program Details</i>	Student Member	
	Manjunath Hlremath		UG		
	Shravya M.Sanu		UG		
	Girish Karikatti		PG-MD		
	Ashwini Hlremath		PG_ESE		
	Faraz Mueen Mulla		PG-PM		
	Sushruth Halewadimath		Ph.D		
11.	P P Revankar	ONE Senior faculty member nominated by the concerned Head of the Department/ School/ Center	Associate Professor, PG-Energy Engineering	Member Secretary	
12.	Dr. Murigendrappa	Invitee	Associate Professor, National Institute of Technology Karnataka, Surathkal	Member	
13.	Dr. Anand Ramani	Invitee	Subject Matter Expert and Head of CAE KPIT Technologies Ltd., Bangalore F-016 Gopalan Habitat Splendour Brooke fields, Kundalahalli	Member	
14.	Vijaykumar R	Invitee	General Manager, Mechanical Engineering Robert Bosch Engineering and Business Solutions Pvt. Ltd., Campus 1B, Ecospace, Bangalore	Member	
15.	Prof. S. Gopalakrishnan	Invitee	Assistant Professor Dept. of Mechanical Engineering Indian Institute of Technology Bombay	Member	



S.No.	Name	Profession	Full Postal Address	Position	Signature
16.	K G Kodancha,	Invitee	Professor, PG-Machine Design	Member	
17.	V N Gaitonde	Invitee	Professor, PG-Production Management	Member	
18.	V N Sanagoudar	Invitee	Associate Professor, Mechanical Engineering	Member	

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