

K L E F
DEPARTMENT OF MECHANICAL ENGINEERING
MINUTES OF BOARD OF STUDIES MEETING

The department Board of Studies meeting was held from 10:00 A.M. on 29/06/2018 in the HoD Chamber, with HoD in the chair.

Agenda of the Meeting:

1. To consider and approve the minutes of the Department Academic Committee (DAC) held on 8th March 2018 and recommend the same to the Academic Council to be incorporated into curriculum.
2. To consider and approve the minutes of the Department Academic Committee (DAC) held on 5th April 2018 and recommend the same to the Academic Council to be incorporated into curriculum.
3. To consider and approve the Curriculum Structure, Syllabus for the 2018 admitted B.Tech. Mechanical Engineering students framed as per the recommendations of the Department Academic Committee (DAC) and feedback from the stakeholders.
4. To consider and approve the changes in Curriculum Structure, Syllabus for the 2017 admitted B.Tech. Mechanical Engineering students made according to the recommendations of the Department Academic Committee (DAC) and feedback from the stakeholders.
5. To consider and approve the changes in Curriculum Structure, Syllabus for the 2016 admitted B.Tech. Mechanical Engineering students made according to the recommendations of the Department Academic Committee (DAC) and feedback from the stakeholders.
6. To consider and approve the Curriculum Structure, Syllabus for the 2018 admitted M.Tech. Machine Design students framed as per the recommendations of the feedback from the stakeholders.
7. To consider and approve the change in the name of M.Tech. Mechatronics program as M.Tech. Robotics and Mechatronics as approved by AICTE in 2018 approval process with Curriculum Structure, Syllabus remaining the same in line with the earlier M.Tech. Mechatronics batches.
8. Any other points with permission of the Chair.

The following Internal Members were present:

1. Dr. Pranveer Singh Satvat, Dean, Academics, KLEF-Patron
2. Dr. A. Srinath, Head of the Dept. and Professor ME - Chairman
3. Dr. S. S. Rao, Alt. HoD ME and Professor ME - Secretary
4. Dr. K. L. Narayana, Dean - R & D and Professor ME
5. Dr. K. Rama Krishna, Dean - Quality and Professor ME

6. Dr. N. B. V. Prasaad, Dean – Placements & Progression and Professor ME
7. Dr. Y. V. Hanumantha Rao, Associate Dean – Practice School and Professor ME
8. Dr. K. V. Narasimha Rao, Group Head, Energy & CFD and Professor ME
9. Dr. G. Diwakar, Group Head, Design Engineering and Professor ME
10. Dr. G. Yedukondalu, Group Head, Robotics & Mechatronics and Associate Professor ME
11. Dr. B. Nageswara Rao, Chairman RPAC ME and Professor ME
12. Dr. S. N. Padhi, HoD BES-II and Professor ME
13. Dr. P. Issac Prasad, Professor ME
14. Dr. D. Kiran Kumar, Associate Professor ME
15. Dr. Y. Kalyan Chakravarthy, Assistant Professor ME
16. Mr. P. Ratna Prasad, Assistant Professor ME

The following External Members were present:

17. Dr. A. Venu Gopal, Professor, Dept. of ME, NIT Warangal (Alumni)
18. Dr. R. Vijaya Kumar, Manager, R & D, HAL, Bangalore (Alumni)
19. Dr. Srinivasa Rao Perla, Global Training Head, Cyient Technologies, Hyderabad
20. Dr. Solaikutty Dhanabal, Academic Program Manager, National Instruments, Chennai

Dr. Gnanamurthy, Professor, Dept. of ME, IIT-Madras and Dr. K. Ravi Teja, Manager R & D, Hyundai R & D Division, Hyderabad, have sent their leave of absence owing to family emergencies. However, both external members have sent their observations on the agenda items through email, to the BoS Chairman.

The following Co-Opted Members were present:

21. Dr. K. Subramanyam, Professor, Dept. of CSE
22. Dr. A. S. C. S. Sastry, Professor, Dept. of ECE
23. Dr. V. S. Bhagavan, Professor, Dept. of Mathematics
24. Dr. K. R. S. Prasad, Professor, Dept. of Chemistry
25. Dr. G. Sunita Sundari, Associate Professor, Dept. of Physics
26. Dr. B. Loveswara Rao, Associate Professor, Dept. of EEE
27. Dr. P. V. Rama Rao, Professor ME
28. Dr. T. Babu Rao, Group Head, Manufacturing and Associate Professor ME
29. Mr. D. V. A. Rama Sastry, Associate Professor ME

The following points were discussed, deliberated:

1. Dr. A. Srinath, Chairman of BoS opened the meeting by welcoming and introducing the external members, to the internal and co-opted members and thanked them for accepting

to become the member of the Board of Studies and the Chairman then put forward the Agenda items before the Board.

2. Chairman of the BoS informed the members present about the Department Academic Committee (DAC) meeting held on 8th March 2018 (Agenda Item No: 1) and highlighted the major resolutions of discussion as brought to the notice of the DAC by the student members and the board unanimously resolved to approve the recommendations made by the DAC. **(Annexure-1: DAC minutes dt:08-03-2018)**
3. Chairman of the BoS informed the members present about the subsequent Department Academic Committee (DAC) meeting held on 5th April 2018 (Agenda Item No: 2) and highlighted the major resolutions of discussion as brought to the notice of the DAC by the student members and the board unanimously resolved to approve the recommendations made by the DAC. **(Annexure-2: DAC minutes dt:05-04-2018)**
4. A brief presentation on how the curriculum for the 2018 admitted B.Tech. Mechanical Engineering batch students was designed taking into consideration the recommendations of ABET and American Society for Mechanical Engineers (ASME) (the lead Professional Society for Mechanical Engineering as specified by ABET) was presented to the members present by the Chairman BoS. The presentation highlighted the Most Cutting Edge, Emerging and Enduring Fields, Areas identified for Additional Training, Emerging and Enduring Tools and Techniques as well as the Professional Skill Sets required for the mechanical engineering graduates to meet the global challenges in the next 10 to 20 years
5. The presentation also featured the comparison of the proposed curriculum to that of the model curriculum proposed by All India Council for Technical Education, the feedback from National Skill Development Corporation (NSDC), Andhra Pradesh State Skill Development Corporation (APSSDC) on the technical skills trainings needed for the mechanical engineering graduates.
6. The Chairman of BoS also briefed the members present about the SWEAR Analysis which is done to identify the Strengths, Weaknesses and Opportunities of the students and ensure that they choose the areas of their interest and thus also informed the members about the specialization areas offered in the department for choosing the electives based on the feedback from the interactions with NSDC and APSSDC. The SWEAR analysis was also conducted for the 2016 and 2017 admitted B.Tech. Mechanical Engineering student batches.
7. Chairman of the BoS then presented the proposed structure of the curriculum and detailed syllabus of Basic Sciences, Humanities, Engineering Sciences and Professional Core for

the 2018 admitted B.Tech. Mechanical Engineering students to the members present and proposed for comments by the members.

8. It is suggested that the syllabus for Engineering drawing be modified and an additional course for Machine drawing be offered that also covers the topics on Geometric Dimensioning and Tolerances, which was agreed to be incorporated by all members.
9. Finite Element Methods course which is offered as a professional elective under Design specialization is replaced with Theory of Elasticity and Plasticity as Finite Element Methods is already offered as a core course with title Finite Element Analysis of Solids and Fluids for 2018 admitted B.Tech. students of Mechanical Engineering.
10. It is resolved to accept and approve the proposed course structure for the batch that will be admitted in the year 2018-19 for B.Tech. in Mechanical Engineering subjected to the changes made as suggested by the members. The curriculum has the following salient features. (**Annexure-3: B.Tech 2018-19 Course Structure**)
 - a. Three Mathematics courses where the 3rd course that will be purely department specific (focused on theory and applications of Differential equations to Mechanical Engineering).
 - b. 14 Professional Core Courses.
 - c. Six Professional Electives with lab associated to each course with an L–T–P structure of 2–0–2.
 - d. There will be Six Open Electives out of which one is a Communication Course, one is a Foreign Language course (keeping in view the Alumni feedback, who requested such courses owing to potential jobs abroad, as well as out of the states of AP and TS within India, for Mechanical Engineering graduates) and one is a Management Elective.
 - e. A course on Indian Heritage and Culture based on the recommendations of Hon'ble Supreme Court of India will also be offered.
 - f. Six Technical Skills courses of which four are department specific and two are coding/ Computing based.
 - g. One course on Biology for Engineers,
 - h. Term Paper - A Literature review paper in 6th semester with 2 credits (0 – 0 – 4).
 - i. Minor Project in 7th semester with 2 credits (0 – 0 – 8).
 - j. Major Project / Practice School in 8th semester with 8 credits (0 – 0 – 32).
11. It is resolved to approve and recommend the changes in Curriculum Structure and Syllabus of the Professional Electives, Professional Core courses for the 2017 admitted

B.Tech. Mechanical Engineering students (Agenda Item No: 4) made according to the recommendations of the Department Academic Committee (DAC) and feedback from the stakeholders and the same are approved to be put up and implemented as it is for that of 2018 admitted B.Tech. Mechanical Engineering Students, as listed out in above minute points. **(Annexure-4: B.Tech 2017-18 Course Structure)**

12. It is resolved to approve and recommend the changes in Curriculum Structure and Syllabus of the Professional Electives, for the 2016 admitted B.Tech. Mechanical Engineering students (Agenda Item No: 5) made according to the recommendations of the Department Academic Committee (DAC) and feedback from the stakeholders. **(Annexure-5: B.Tech 2016-17 Course Structure)**

13. It is resolved to approve and recommend the proposed Curriculum Structure, Syllabus for the 2018 admitted M.Tech. Machine Design subjected to the following modifications as suggested by the members. **(Annexure-6: M.Tech Machine Design 2018-19 Course Structure)**

- a. Advanced Engineering Material and their selection is replaced with Design with Advanced Materials
- b. Applied Mathematics is replaced with Theory of Elasticity and Plasticity
- c. Advanced Theory of Vibrations renamed as Mechanical Vibrations
- d. Instrumentation and Control Systems Elective replaced with Product Design and Development
- e. Mechanics of Fracture elective renamed as Fracture Mechanics

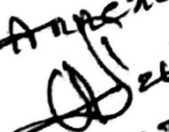
14. It is resolved to approve the change in the name of M.Tech. Mechatronics program as M.Tech. Robotics and Mechatronics as approved by AICTE in 2018 approval process with Curriculum Structure, Syllabus remaining the same in line with the earlier M.Tech. Mechatronics batches.



(Dr. A. Srinath)
Chairman – BoS
Dept. of ME

Dr. A. SRINATH
PROFESSOR & HEAD

Department of Mechanical Engineering
OST FIST SPONSORED DEPARTMENT
K.L.E.F., Deemed to be University,
Vaddeswaram - 522 502.

Recd. BOS Minutes
with Annexures

(2738)

DEPARTMENT OF MECHANICAL ENGINEERING
MINUTES OF BOARD OF STUDIES MEETING

The department Board of Studies meeting was held from 10:00 A.M. on 15/12/2018 in the HoD Chamber, with HoD in the chair.

The following Internal Members were present:

1. Dr. A. Srinath, Professor, Head of the Department, BOS - Chairman
2. Dr. S. S. Rao, Professor, Secretary
3. Dr.K.Rama Krishna, Professor and Dean Quality
4. Dr. K. L. Narayana, Professor, Dean-R&D
5. Dr. N. B. V. Prasaad, Professor, Dean – Placements & Progression
6. Dr. Y. V. Hanumantha Rao, Professor, Associate Dean – Practice School
7. Dr. B. Nageswara Rao, Professor, Chairman RPAC
8. Dr. P. Issac Prasad, Professor, Group Head, Energy & CFD
9. Dr. G. Diwakar, Professor, PG coordinator
10. Dr. Y. Kalyan Chakravarthy, Associate Professor, Group Head-Robotics & Mechatronics
11. Dr. S. N. Padhi, HoD BES-II and Professor ME
12. Dr. K. V. Narasimha Rao, Professor ME
13. Dr. D. Kiran Kumar, Associate Professor ME
14. Dr. G. Yedukondalu, Associate Professor ME

The following External Members were present:

15. Dr. R. Vijaya Kumar, Senior Manager, R & D, HAL, Bangalore (Alumni)
16. Dr. P. Srinivasa Rao, Global Training Head, Cyient Technologies, Hyderabad
17. Dr. K. Raviteja, Deputy Manager, Hyundai R&D Division, Hyderabad (Alumni)

Dr. A. VenuGopal, Professor, Dept. of ME, NIT Warangal, have sent his leave of absence owing to official emergencies. However, he sent his observations on the agenda items through email, to the BoS Chairman.

The following Co-Opted Members were present:

18. Dr. V. S. Bhagavan, Professor, Dept. of Mathematics
19. Dr. K. R. S. Prasad, Professor, Dept. of Chemistry
20. Dr. G. Sunita Sundari, Associate Professor, Dept. of Physics
21. Dr. B. Loveswara Rao, Professor, Dept. of EEE

The following special invitees were present:

*Received
K. R. S. Prasad
15/12/18*

22. Dr. A. Jagadeesh, Professor, Dept. of ME & Chief Coordinating Officer

23. Mr. D. V. A. Rama Sastry, Associate Professor, Dept. of ME.

The following student members were present:

24. Ms. M. Sankeerthana (182071015), student, I/II M.Tech-Thermal Engg.

25. Mr. R. Kiran Kumar Reddy (182073001), student, I/II M.Tech-Machine Design

26. Mr. P. Vamsi Ram (182072005), student, I/II M.Tech-Robotics & Mechatronics

27. Mr. K. Jeyavanth (170070097), student, II/IV B.Tech-Mechanical Engineering

Dr. A. Srinath, Chairman of BoS opened the meeting by welcoming and introducing the external members, to the internal and co-opted members and thanked them for accepting to become the member of the Board of Studies and also informed to External members about the NAAC A++ grade and category 1 status achieved by the university and thanked all the stake holders who are part of this achievement.

After due deliberations, the following resolutions have been adopted:

AGENDA and RESOLUTIONS

Agenda Item 1:

To consider and undertake the analysis of In-semester performance of UG-Mechanical Engineering students during 2018-19 Odd semester and recommend suitable incorporations for enhancing students learning (**Ref: 2018-19 odd semester Sem-In Exam-I and Sem-In Exam-II Result Analysis**).

Resolution:

It is resolved to give flexibility to course instructing team to identify right evaluation methods rather than using standard question paper template to enable the course instructors to evaluate learners through appropriate methods which in turn will reflect the actual learning of the learners.

Agenda Item 2:

To consider changes proposed by the course coordinators in syllabus, delivery mode and evaluations etc., for 2018-19 even semester courses.

- a) To consider the revision of syllabus and Course Outcomes (COs) of the courses Introduction to Computational Thinking and Data Sciences (18ME1204), Skilling for Engineers-I (Manufacturing Technologies-17TS701), Robotics (16ME3219), Problem Solving Techniques in Design (16TS701), Mechanics and Materials-II (17ME2213), Design of Machine Elements (16ME3221). (**Annexure:1(a) to 1(f)**)
- b) To consider the revision of list of experiments in the course Dynamics and Control-II (17ME2211). (**Annexure:1(g)**)
- c) To consider the changes proposed in evaluation patterns in the courses Numerical Computation for Mechanical Engineers (17ME2206), Introduction to Computational Thinking and Data Sciences (18ME1204), Mechanics and Materials-II (17ME2213). (**Annexure:2(a) to 2(c)**)

- d) To consider the change of L-T-P for the course Numerical Computation for Mechanical Engineers (17ME2206) from 3-0-2 to 1-2-2.

Resolution: It is resolved to accept the revisions proposed in all the courses, except for the course Skilling for Engineers-I (Manufacturing Technologies-17TS701), the external members suggested to add topics related to Rapid Prototyping, CAE tools and to use conventional methodology of conducting experiments related to casting, welding instead of using Hyperworks software tool, which helps the students to gain hands on experience.

Agenda Item 3:

To consider the feedback given by students in the DDC, Student Grievances Committee on various academic related aspects and recommend suitable measures.

- a) The student members requested the HoD to consider their request of excusing them from writing the records. Instead of duplicating the same thing in the record, they requested that rather than writing the record they must be asked to write what they have learned while conducting the experiment, questions about how they have used the equipment and then the marks be awarded based on Viva-Voce. Students also informed that most of the students feel that they are getting 5 free marks just for writing the records which will not serve any purpose of learning. **(Ref: Department Development Committee minutes dated 9/8/2018, point no:1c and 1e)**

Resolution:

It is resolved that, Record writing in laboratory is required to be dispensed as it won't add any learning value to the student and above it will burden the students with extra work instead student can spend the same time to carry out project in Lab. It is also resolved that course coordinator should upload the soft copy of the lab manual in LMS and the students must download/take print out of the same and fill in all blanks while they do the experiments and complete the manual and must upload that manual immediately after completion of experiment. Hence the lab instructor will evaluate the same in LMS.

- b) Mr.B.V.Neerav (160070041) expressed that Virtual Labs which were carried in the third year 1st semester has not helped them in gaining any new knowledge. Labs like Gas Power Systems and Dynamics of Machines did not help them to gain any practical information but also observation and record with the same content was written **(Ref: Department Development Committee minutes dated 11/12/2018).**

Resolution:

It is resolved to establish the laboratories physically in all the fundamental courses. Virtual Lab can be taken up in the regular class, over and above the list of experiments.

- c) Course coordinators handled II year courses (MM-II, TFE-I, DC-I) in the odd semester brought to the notice of the DDC chairman that an average of 60 % of the students have not attempted all the questions in the Sem-In and Sem-End Exams conducted in

the odd semester as the no. of questions need to be answered are more in number
(Ref: Department Development Committee minutes dated 11/12/2018).

Resolution:

It is resolved to give the flexibility to the course coordinator and his team to set the appropriate question paper as per the delivery level of the course.

Agenda Item 4:

To consider the feedback given by the course instruction team of 2018-19 Odd Sem, on evaluation patterns followed during in Sem-In Exams and Sem-End Exams and analyse the same and recommend suitable measures

Resolution: It is resolved to give freedom and flexibility to the course coordinator and his team to choose the appropriate evaluation pattern that helps the students in achieving the outcomes of the course to the maximum.

Under Any other items, the following points are taken up and resolved:

Other Item 1:

To continue with existing intake strength of B.Tech. Mechanical Engineering Program

Resolution:

It is resolved to go with the current intake strength of 300 per year for B.Tech. Mechanical Engineering Program, keeping in view the present demand for Mechanical Engg. Program and recommend to take subsequent approval from AICTE.

Other Item 2:

To propose two new B.Tech Programs offered by the dept. of Mechanical.

Resolution: Because of emerging areas demand and good scope for placements in these areas both in AP and TS as well as in India, it is recommended to have two new B.Tech programs offered by the dept. of ME with an intake of 60 per each per year and subsequent approval from AICTE may be taken.

- a) Automobile/Autotronics Engineering
- b) Robotics and Mechatronics/Robotics and Automation

Other Item 3:

To increase the intake strength in PG programs offered by ME dept, and also to propose new PG –M.Tech. programs.

Resolution: It is resolved to increase the intake in PG programs offered by ME dept. from 18 to 30 per year and subsequent approval from AICTE may be taken.

- a) Machine Design
- b) Robotics and Mechatronics

The following new PG- M.Tech. programs are resolved to be started from 2019-20 academic year, with the program structure and syllabus to be put up for approval of BoS in the next BoS to be held in June/ July 2019:

1. M.Tech. Computer Integrated Manufacturing
2. M.Tech. Automobile Engineering / Autotronics

Other Item 4:

To waive off one certificate course for 2014-15 admitted batch (i.e. passed out batch) and 2015-16 admitted batch (i.e. present IV/IV B.Tech) by amending the existing academic regulation accordingly and getting the approval of Academic Council.

Resolution: There are number of final year students (Y15 batch) in the department who are yet to complete 2 technical certificate courses. Due to various reasons, certificate course was not conducted in the odd semester of 2018-19. So students have to complete 2 certificate courses in the coming even semester. It is not possible to plan 2 certificate courses for these final year students as per the academic calendar, it is recommended to waive off one certificate course for these students so that student completes 2 technical certificate courses in place of 3 as per the existing regulation.

Other Item 5:

To amend the changes in implementation of "Social Service Activity" regulation of 2015-16 and 2016-17 admitted batches which is one of the requirements of B.Tech degree.

Resolution:


As per the Academic Regulations of 2015-16 and 2016-17 admitted batches, student must successfully complete social service activities for a minimum duration of 30 hours starting from 3rd semester onwards for the award of B.Tech degree. Majority of the students have not completed, as no guidelines were given by the Office of Dean Academics on how to measure or evaluate the student who completed the same and hence only one semester is left for the final year students to take necessary corrective measure in this regard. So, it is resolved to conduct/organize social awareness programs/camps by the department during weekly off days. Hence the attendance of the students who participates actively in these social awareness programs will be considered and certified for award of degree.

Other Item 6:

As proposed by Dr.P.Srinivasa Rao, Global Training Head-Cyient Technologies and seconded by Dr.K.Ravi Teja, Deputy Manager Hyundai R&D, to incorporate a)Machine Learning, b) Data Analytics, c) Python Programming with problem solving applications in mechanical engineering, d) IoT applications to mechanical engineering, e) Digital Signal Processing

Resolution:

It is felt very essential to incorporate the proposed courses into the B.Tech. Mechanical Engg. Curriculum, and this certainly will enable the students to be industry ready and upkeep themselves with the rapid changing industry demand and needs, hence resolved to incorporate the same at appropriate level of study for B.Tech. Mech. Engg. W.e.f. 2019-20 intake batch and also make necessary amendments in 2018-19 intake batch syllabus and structure and put up for approval of the BoS, that is to be conducted during June/ July 2019.


(Dr. A. Srinath)
Chairman – BoS, Dept. of ME
PROFESSOR & HEAD



