

Charotar University of Science & Technology
C.S. Patel Institute of Technology
Department of Mechanical Engineering

Academic Year: 2019-20

Date: 26/06/2020

Feedback Analysis Report of Stakeholders on Curriculum

Feedback of Students:

1. More practical knowledge should be provided.
2. Include MATLAB as elective course.
3. Advanced courses should be included as per current trend.

Feedback of Employers:


1. Maintenance aspect should be included in courses such as automobile engineering.
Power plant engineering etc.
2. Topics such as Harshness, Noise, Noise control should be introduced at UG level.
3. Hands on practice should be included in practical sessions.
4. Teach root cause analysis for product failures.

Feedback of Alumni:

1. More practical knowledge should be provided.
2. Case study-based learning should be introduced.
3. Automation should be more emphasis as per current trends.
4. Design of Shell & Tube Heat Exchanger should be taught in Heat Transfer.

Feedback of Teachers:

1. Industrial exposure should be needed for more practical knowledge.
2. More elective subjects should be offered, so students can choose as per interest.
3. Pre-requisite of all subjects should be analysed before starting of any course.
4. Finite Difference Methods should be introduced in Heat Transfer Subject.


Dr. Vijay Chaudhary.

Professor & Head, MED, CSPIT



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CHARUSAT CAMPUS, CHANGA

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C.S. Patel Institute of Technology
Department of Mechanical Engineering**

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Action taken report on feedback of Stakeholders on Curriculum

1. Hydraulic and pneumatics course is added as an elective subject. (Annexure I)
2. Course content of Heat & Mass Transfer is modified. (Annexure I)
3. New course "Noise & Vibration" is introduced as an elective in third year. (Annexure I)
4. Various case studies are introduced in Metrology & Quality Control. (Annexure I)



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Annexure I

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Minutes – Meeting of Board of Studies
CHAMOS Matrusanstha Department of Mechanical Engineering

Date : July 04, 2020, Saturday

Time : 9:30 am

Venue : Department of Mechanical Engineering, CSPIT, CHARUSAT Campus (Online Meeting)

The online meeting of the Board of Studies, Mechanical Engineering, Faculty of Technology and Engineering, Charotar University of Science and Technology (CHARUSAT) was held as per schedule.

Following members were present:

1.	Dr. Vijay Chaudhary	Chairman;	Professor & Head, Department of Mechanical Engineering, CSPIT
2.	Dr A D Patel	Member;	Professor, Department of Mechanical Engineering, CSPIT
3.	Dr. Mayur Sutaria	Member;	Professor, Department of Mechanical Engineering, CSPIT
4.	Dr. Gajanan Patange	Member;	Associate Professor, Department of Mechanical Engineering, CSPIT
5.	Dr. Kamlesh Chauhan	Member;	Associate Professor, Department of Mechanical Engineering, CSPIT
6.	Dr. P M George	Member;	Professor, Mechanical Engineering Department, BVM Engg. College, Vallabh Vidyanagar
7.	Dr. Piyush Gohil	Member;	Associate Professor, Mechanical Engineering Department, M S University - Vadodara
8.	Dr. Vikas J Lakhera	Member;	Professor, Mechanical Engineering Department, Nirma University - Ahemdabad
9.	Mr. Sambhaji D. Kudale	Member;	Sr. Manager, Corporate Internal Audit, JSW Steel Limited, Mumbai

Initiation:

Chairman welcomed all the members of Board of Studies. The minutes of the sixteenth Board of Studies meeting held on August 31, 2019 was summarized.

Agenda, Proceeding & Resolutions:-

Item – 17.01: For Discussion; To review and approve the teaching & examination scheme and syllabus for 5th & 6th semesters (third year) of B Tech program with CBCS scheme effective from 2019 admission batch.

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Proceedings – 17.01:

Teaching & examination scheme with syllabus for third year of B Tech program is discussed in detail. Following revisions for third year of B Tech program are proposed:

- In the course of "Heat and Mass Transfer" (ME342), topic on "Finite difference method for solution of heat conduction problems" should be added in Conduction section. In Boiling and Condensation section, include "Boiling curve and modes of Pool Boiling, Flow Boiling" topic. In Heat Exchangers section, include "Designation of Shell & Tube Heat Exchangers as per TEMA" topic.
- The topic of Cryogenics, which is at present in "Thermal Engineering" (ME350) course, may be placed in the "Refrigeration & Air Conditioning" (ME344) course.
- Various case studies on Quality techniques/philosophies should be included in the course "Metrology & Quality Control" (ME352).
- In the elective course "Noise and Vibration" (ME378), topics related to strategies to control Noise, Vibration, Sound and Harshness should be incorporated.
- In third year, comprehensive and contemporary elective courses are introduced for providing more choices to the students.
- In the pool of electives, course on "Micro-Fluidics" & "E-vehicles" may be introduced.

Resolution – 17.01:

The suggested changes are incorporated in the teaching & examination scheme and syllabus for third year of B Tech program with CBCS scheme effective from 2019 admission batch and attached as an Annexure-I.

Item – 17.02: For Discussion; To review and approve the teaching & examination scheme of 7th & 8th semesters (fourth year) of B Tech program with CBCS scheme applicable for 2018-19 admission batch.

Proceedings – 17.02:

Teaching & examination scheme of 7th & 8th semesters (fourth year) of B Tech program is discussed in detail. No major modifications are required in the teaching scheme & syllabus.

Resolution – 17.02:

The teaching & examination scheme for final year of B Tech program with CBCS scheme applicable for 2018-19 admission batch and attached as an Annexure-II.

Item – 17.03: For Discussion; To review and approve the teaching and examination scheme of B Tech program and detailed syllabus of 1st year with CBCS scheme for 2020-21 admission batch.

Proceedings – 17.03:

Teaching and examination scheme for 1st year of B Tech program for 2020-21 admission batch is discussed in detail. Following revisions in B Tech program are proposed:

- In 1st year, teaching scheme and content of "Engineering Physics" (PY141.01) course is revised. The course is divided in two semesters of first year (PY142 & PY143) and the pedagogy is revised from theory mode to practical mode.
- In 1st year, course structure and syllabus of "Environmental Sciences" course (CL142.01/CL142A.01) (which is being offered across the University in practical mode during odd and even semesters) is modified and new course code (CL144A/CL144B/CL144C) is provided.

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- The course structure of the Humanities & Social Sciences (HSS) courses for the academics year 2020-21 for BTech & MTech programs are revised.

Resolution - 17.03:

The suggested changes are incorporated in the teaching scheme and syllabus for 1st year B Tech CBCS courses effective from 2020-21 intake and the revised course structure of the Humanities & Social Sciences (HSS) courses for the academics year 2020-21 for BTech program are attached as an Annexure-III.

Item – 17.04: For Discussion; To approve the updates in M Tech (CBCS) programs.

Proceedings – 17.04:

Looking to the need and demand, the MTech CAD/CAM program is discontinued from the academic year 2020-21. For online theory classes of ongoing MTech programs, MOOC's resources (NPTEL/SWAYAM) were identified for the each course and its mapping with existing syllabus is carried out.

Teaching and examination scheme of M Tech programs (Advanced Manufacturing Technology & Thermal Engineering) is discussed in detail and the course structure of the Humanities & Social Sciences (HSS) courses for the academics year 2020-21 for MTech programs are revised.

Resolution – 17.04:

The updates are incorporated in the teaching and examination scheme of M Tech programs and related MOOC's resources are attached as an Annexure-IV.

Item – 17.05: For Discussion; Analysis of end semester results of the students.

Proceedings – 17.05:

End semester results for the academic year 2019-20 was presented. Following suggestions were given to improve the results in future.

Members suggested that assignments/tutorials containing numerical and analytical questions should be provided to the students. Analysis and feedback of make-up and remedial classes to improve the performance of students can be carried out. A bridge course for Diploma to Degree students can be introduced to improve the performance of students.

Resolution – 17.05:

End semester result analysis for the academic year 2019-20 is attached as an Annexure-V.

Item – 17.06: For Discussion; Analysis of campus placement and its related activities.

Proceedings – 17.06:

Placement statistics & packages offered for 2019-20 batch were presented. To enhance the training and placement activities, aptitude test and mock practice of campus drive are being conducted for students. In addition, 'Summer Internship' for the student is made mandatory at the end of the 4th & 6th semester; during semester break. It will include report writing and presentation on industrial training underwent by the student.

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Members suggested that "Psychometric Test" of each student should be conducted. This tool is used to understand which career field is suitable for a student or it can also be used to gauge whether a person is fit for a particular job role.

Institute-industry interaction needs to be improved for enhancing training and placement activities and each faculty member is being involved in the institute-industry interaction.

Resolution – 17.06:

Placement records and its related activities are attached as an Annexure-VI.

Item – 17.07: For Discussion; Additional item(s) – Review of University Exam Question Papers, OBE and Preparation related to NBA & NAAC, Innovation in Pedagogy, Research Activities and Feedback from stakeholders, Minor specialization in emerging area.

Proceedings & Resolution – 17.07:

Review of University Exam Question Papers:

Quality Assessment of University Exam Question Papers is carried out by following measures.

- Mapping of questions with course outcomes.
- Bloom's Taxonomy while drawing the question papers.
- Attainment of course outcomes are analyzed after each examination.
- Evaluation of the question paper also involves parameters like clarity of question paper, grammar with language, syllabus coverage, and overall quality.

Members discussed about deviation in marks observed from predefined marks as per weightage of the units/topics in the university exam question papers. Question papers analysis report is attached herewith as an Annexure VII.

Members agrees that in the university exam question paper, around 10% deviation in marks as compared to predefined marks as per weightage of the units/topics in the course syllabus is allowed to account for uncertainty and to facilitate flexibility.

Outcome Based Education & Preparation related to NBA & NAAC:

First Cycle of NAAC accreditation completes in May 2021 and we are in process of preparing SSR for 2nd cycle. As per the guidelines of NAAC, NBA and other accreditation bodies implementation of OBE is mandatory. With this background, University level committee is formed to ensure facilitation and implementation of Outcome Based Education across all institutes/Departments.

Mechanical Engineering department has already implemented Outcome Based Education (OBE) system. University level committee is requested to review Vision, Mission, Program Educational Objectives (PEOs), Program Outcomes (POs) and Course Outcomes (COs) for the department. As per the suggestions from committee some modification in the Vision, Mission and PEOs of the department. Committee members also suggested to revise course outcomes of few courses.

The mapping of course outcomes with Program Outcomes of all the courses was completed. For next phase of work, the attainment of POs based on exam will be carried out. For the above revisions feedback from various stakeholders were also considered.

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Modifications in Vision, Mission & PEOs are reviewed and approved by the members and attached as an Annexure VIII.

Innovation in Pedagogy:

Classroom & Laboratory presentations, Mini projects, Group discussion, Online test, Quiz etc. was introduced as a part of continuous evaluation system. Faculties are enrolled as a mentor for many SWAYAM/NPTEL online courses to help the students. During COVID-19 pandemic, faculties uses various online meeting platforms for conducting theory classes and Google classroom platform for examination & evaluation. For the coming academic year (2020-21), Microsoft Team platform will be used for online teaching and continuous evaluation.

Research Activities:

During academic year 2019-20, following research projects are submitted to the SERB - Teachers Associateship for Research Excellence (TARE) scheme. This scheme aims to facilitate mobility of faculty members to carryout research work in an established public funded institution such as IITs, IISc, IISERS, National Institutions. Research work will be carried out in such a manner to ensure that PI continue to work in the host institute as well as his / her parent institute on mutually agreed terms between the PI and Mentor. Following research projects are submitted in TARE scheme.

Sr. No.	Topic	Faculty Member	Mentor
1	Magneto rheological elastomer as a delamination suppression technique during drilling of CFRP	Mr. Punit Patel	Dr. Inderdeep Singh, IIT - Roorkee
2	Fabrication & Tribological Studies of Nylon 6-B ₂ O ₃ and Nylon 6-MoO ₃ self-lubricated polymer Composites	Mr. Kawaljit Randhawa	Dr. Pijush Kanti Mandal, Plastic Engineering Department, Central Institute of Plastic Engineering & Technology - Ahmedabad

The ongoing research projects (2019-20) in the mechanical engineering department are attached as an Annexure IX.

Feedback from final year passing out students:

The online feedback for various criteria viz. academics, curricular & extra-curricular activities, administration, curriculum, training & placement and teaching learning was taken from 8th semester passing out students. Feedbacks were analysed, reviewed & action taken plan was discussed. The detail report of feedback is attached herewith as an Annexure X.

Minor specialization in emerging area:

AICTE allow Under Graduate Degree Courses in EMERGING AREAS as specialization from the same Department. The minimum additional Credits for such Courses shall be in the range of 18-20 and the same shall be mentioned in the degree, as specialization in that particular area.

The students have the flexibility of earning a Hons./Minor in a specialised domain offered by the Department of Mechanical Engineering by earning 18 additional credits.

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The Hons./Minor programme offered from the fourth semester onwards is may be in Industrial Automation, Surface Engineering, Robotics, Artificial Intelligence, Additive Manufacturing, E-Vehicles etc.

Members appreciated and recommended that the Hons./Minor Specialization in emerging areas should be offered in order to enhance placement and students admissions in future.

The meeting ended with a vote of thanks by the Chairman.



Dr. Vijay Chaudhary
Chairman
Date: 10/07/2020



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