

GM UNIVERSITY

DAVANAGERE



Board of Studies Meeting Proceedings

B.Tech | Mechanical Engineering | 17.02.2025



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GM UNIVERSITY

P. B. Road, Davanagere – 577 006 KARNATAKA | INDIA

Program Vision

To be a leading global center for mechanical engineering education, creating skilled, innovative, and socially responsible engineers capable of solving complex challenges. By integrating advanced technologies, cross-disciplinary approaches, and sustainable practices, our program equips students to drive technological advancements and contribute meaningfully to society's progress.

Program Mission

- 1. Comprehensive Education:** Provide a robust mechanical engineering education, building a foundation to design, optimize, and innovate mechanical systems addressing real-world issues.
- 2. Professional Skills & Leadership:** Develop expertise, practical experience, and leadership through hands-on projects, internships, and prototyping, ensuring success in diverse sectors.
- 3. Holistic Development:** Foster critical thinking, teamwork, and ethical responsibility to create well-rounded engineers contributing to global challenges.
- 4. Emerging Technologies:** Integrate cutting-edge technologies and research to ensure graduates are proficient with modern tools, industry trends, and sustainable engineering solutions.
- 5. Lifelong Learning & Entrepreneurship:** Encourage continuous growth and empower students to become innovative leaders and entrepreneurs, tackling societal needs and global challenges.

PROGRAM DETAILS

Faculty	Engineering and Technology (FET)
School	School of Engineering
Department	Mechanical Engineering
Program	B.Tech., Mechanical Engineering
Dean of Faculty	Dr. Prakash S V
Director of School	Dr. Praveen J
Head of Department	Dr. Srinivasa C V

1	Title of the Award	B.Tech. in Mechanical Engineering
2	Modes of Study	Full Time
3	Awarding Institution /Body	GM University
4	Joint Award	Not Applicable
5	Teaching Institution	Faculty of Engineering and Technology, GM University
6	Date of Program Specifications	November -2024
7	Date of Course Approval by the Academic Council of GMU	---
8	Next Review Date:	---
9	Program Approving Regulating Body and Date of Approval	---
10	Program Accredited Body and Date of Accreditation	---
11	Grade Awarded by the Accreditation Body	---
12	Program Accreditation Validity	---
13	Program Benchmark	N/A
14	<p>Program Overview</p> <p>The Bachelor's program in Mechanical Engineering (B.Tech. Mechanical Engineering) offers a comprehensive and dynamic education for students aspiring to excel in the ever-evolving field of mechanical engineering. This program is meticulously designed to provide students with a solid foundation in both the theoretical principles and practical applications of mechanical engineering, fostering a deep understanding of creative problem-solving, product design, and emerging technologies in the</p>	

	<p>mechanical industry.</p> <p>Over the course of four years, students engage in a well-structured curriculum that seamlessly integrates core engineering principles with specialized courses in mechanical engineering. The program adopts a hands-on approach, incorporating design projects, prototyping, and internships to enable students to apply theoretical knowledge to real-world mechanical engineering challenges.</p> <p>Key areas of study include mechanics, thermodynamics, materials engineering, fluid mechanics, machine design, manufacturing processes, and sustainable engineering practices. Students also gain proficiency in using cutting-edge tools and software, preparing them for the challenges of the contemporary mechanical engineering industry.</p> <p>The B.Tech. Mechanical Engineering program aims to equip graduates for diverse career opportunities across various sectors, including automotive, aerospace, robotics, manufacturing, and energy industries. Potential career paths include roles in product design firms, research and development, manufacturing industries, and entrepreneurship within the mechanical engineering domain.</p> <p>The interdisciplinary nature of mechanical engineering opens avenues to explore diverse applications, enabling graduates to contribute to advancements in technology, product innovation, and sustainable engineering practices. Continuous learning and staying abreast of the latest industry trends are crucial for graduates to thrive in the rapidly evolving field of mechanical engineering. The program spans eight semesters, providing a holistic education that prepares students for a successful and impactful career in mechanical engineering.</p>
15	<p>Program Educational Objectives (PEOs)</p> <p>The Bachelor's program in Mechanical Engineering is designed to provide a comprehensive education that fosters key competencies, preparing graduates to excel in the mechanical engineering field. The curriculum nurtures critical thinking, analytical abilities, innovation, creativity, and problem-solving skills. Graduates will be well-equipped for professional growth and lifelong learning. The Program Educational Objectives include:</p>

	<p>PEO-1: Technical Proficiency and Innovation</p> <p>Graduates will establish a robust foundation in mechanical engineering principles and emerging technologies, enabling them to design, analyze, and optimize mechanical systems. They will adeptly address real-world challenges across sectors such as automotive, aerospace, robotics, and manufacturing.</p> <p>PEO-2: Professional Growth and Leadership</p> <p>Graduates will excel in technical and leadership roles within diverse settings, including product design firms, manufacturing industries, research and development organizations, and entrepreneurial ventures. They will drive technological advancements and innovation, meeting employer expectations and societal needs.</p> <p>PEO-3: Lifelong Learning and Societal Contribution</p> <p>Graduates will engage in continuous professional development through advanced studies, professional certifications, and active participation in professional societies. They will contribute responsibly to society, upholding ethical standards and adapting to evolving professional environments.</p> <p>The overarching goal of the B.Tech. Mechanical Engineering program is to produce graduates who are well-prepared to tackle the challenges of the mechanical engineering industry, contribute to technological progress, and make meaningful contributions to society.</p>
16	<p>Program Outcomes (POs) (Graduate Attributes)</p> <p>PO-1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</p> <p>PO-2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.</p> <p>PO-3: Design/development of solutions: Design solutions for complex engineering</p>

	<p>problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</p> <p>PO-4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.</p> <p>PO-5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.</p> <p>PO-6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.</p> <p>PO-7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.</p> <p>PO-8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</p> <p>PO-9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.</p> <p>PO-10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.</p> <p>PO-11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</p> <p>PO-12: Lifelong learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.</p>
17	<p>Program Specific Outcomes (PSOs):</p> <p>Upon successful completion of the Bachelor's Program in Mechanical Engineering, graduates will possess the capability to:</p>

PSO-1: Sustainable and Innovative Engineering

Graduates will analyze complex systems, identify challenges, and develop efficient, innovative, and sustainable solutions in product design, automation, and manufacturing, addressing industry and societal needs.

PSO-2: Advanced System Design & Implementation

Graduates will conceptualize, model, simulate, and test mechanical systems using modern tools and materials science, driving innovation in aerospace, automotive, robotics, and energy sectors.

PSO-3: Research & Technological Leadership

Graduates will conduct experiments, optimize solutions, and integrate AI-driven simulations, contributing to cutting-edge research, industry advancements, and sustainable engineering practices.

These Program Specific Outcomes are designed to ensure that graduates are not only proficient in theoretical aspects of mechanical engineering but also equipped with practical skills and leadership qualities. Emphasizing innovation and sustainability, the outcomes prepare graduates to address real-world challenges and develop solutions that are both technologically advanced and environmentally responsible.

18 Programme Structure

A. Definition of Credit:

1 Hr. Lecture (L) per week	1 Credit
2 Hr. Tutorial (T) per week	1 Credit
2 Hr. Practical (P) per week	1 Credit

Sl.No.	Program -Category	Credits
1	Program-Core courses, elective Courses, open electives	130
2	Technical Skills	10 (SDTCD)
3	Life Skills	3(CASP)
4	Innovation and Entrepreneurial Skills	3(CIPI)
5	Environmental Awareness and Community Services	3(SA)
6	Athletics, Sports, Yoga, Gymnasium	3(SA)
7	Cultural & Literary Activities	3(SA)
8	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	2(SA&SP)
9	Placement Training	3(CASP)
Total		130+30=160

19. Courses and Credits:

Semester-1			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME1101	Fundamental Mathematics	3
2.	UE25ME1102	Engineering Physics	3
3.	UE25ME1103	Introduction to Mechanical Engineering Systems	3
4.	UE25ME1104	Electrical and Electronics Engineering	3
5.	UE25ME1105	C Programming	2
6.	UE25ME1106	C Programming Practice	1
7.	UE25ME1107	Digital Tools for Engineering Applications Practice	1
8.	SDTCD	Technical Skills	0
9.	CASP	Life Skills	0
10.	CIBI	Innovation and Entrepreneurial Skills	0
11.	SA	Environmental Awareness and Community Services	0
12.	SA	Athletics, Sports, Yoga, Gymnasium	0
13.	SA	Cultural & Literary Activities	0
14.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0
15.	CASP	Placement Training	0
Total			16

Semester-2			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME1201	Applied Mathematics	3
2.	UE25ME1202	Engineering Chemistry	3
3.	UE25ME1203	Engineering Mechanics	2
4.	UE25ME1204	Engineering Graphics	2
5.	UE25ME1205	Python Programming	2
6.	UE25ME1206	Python Programming Practice	1
7.	UE25ME1207	CAD Modelling Practice	1
8.	SDTCD	Technical Skills	2
9.	CASP	Life Skills	1
10.	CIBI	Innovation and Entrepreneurial Skills	0
11.	SA	Environmental Awareness and Community Services	1
12.	SA	Athletics, Sports, Yoga, Gymnasium	0
13.	SA	Cultural & Literary Activities	0
14.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0
15.	CASP	Placement Training	0
Total			18

Semester-3			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME2301	Advanced Mathematics	3
2.	UE25ME2302	Engineering Thermodynamics	4
3.	UE25ME2303	Mechanics of Materials	3
4.	UE25ME2304	Design Codes, Standards, and GD&T Fundamentals	3
5.	UE25ME2305	Material Science & Engineering	2
6.	UE25ME2306	MATLAB & Simulink Practice	1
7.	UE25ME2307	Materials Testing and Characterization Practice	1
8.	SDTCD	Technical Skills	2
9.	CASP	Life Skills	1
10.	CIBI	Innovation and Entrepreneurial Skills	0
11.	SA	Environmental Awareness and Community Services	1
12.	SA	Athletics, Sports, Yoga, Gymnasium	1
13.	SA	Cultural & Literary Activities	0
14.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0
15.	CASP	Placement Training	1
Total			23

Semester-4			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME2401	Measurement Techniques and Electromechanical Systems	2
2.	UE25ME2402	Fluid Mechanics and Machines	4
3.	UE25ME2403	Theory of Machines	3
4.	UE25ME2404	Manufacturing Processes and Technologies	2
5.	UE25ME2405	Automotive Engineering and Hybrid Vehicle Technology	2
6.	UE25ME2406	Manufacturing Processes and Technologies Practice	1
7.	UE25ME2407	Measurement Techniques and Electromechanical Systems Practice	1
8.	SDTCD	Technical Skills	2
9.	CASP	Life Skills	1
10.	CIBI	Innovation and Entrepreneurial Skills	1
11.	SA	Environmental Awareness and Community Services	1
12.	SA	Athletics, Sports, Yoga, Gymnasium	1
13.	SA	Cultural & Literary Activities	1
14.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0
15.	CASP	Placement Training	1
Total			23

Semester-5			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME3501	Design and Modelling of Mechanical Components-I	4
2.	UE25ME3502	Heat and Mass Transfer	3
3.	UE25ME3503	Finite Element Methods	3
4.	UE25ME3504	Applied Dynamics and Vibrations	3
5.	UE25ME3505	Design for Manufacturing and Assembly	3
	UE25ME3506	Artificial Intelligence in Mechanical Systems	
	UE25ME3507	Tribology and Surface Engineering	
6.	UE25ME3508	HVAC Systems Practice	1
7.	UE25ME3509	Finite Element Modeling and Simulation Practice	1
8.	SDTCD	Technical Skills	2
9.	CASP	Life Skills	0
10.	CIBI	Innovation and Entrepreneurial Skills	0
11.	SA	Environmental Awareness and Community Services	0
12.	SA	Athletics, Sports, Yoga, Gymnasium	1
13.	SA	Cultural & Literary Activities	0
14.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0
15.	CASP	Placement Training	1
Total			23

Semester-6			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME3601	Design and Modelling of Mechanical Components-II	4
2.	UE25ME3602	Design and Modelling of Thermal Systems	3
3.	UE25ME3603	Instrumentation and Control Engineering	3
4.	UE25ME3604	Advanced Manufacturing Processes & Technologies	3
5.	UE25ME3605	Aerospace Systems Engineering	3
	UE25ME3606	Smart Materials and Structures	
	UE25ME3607	Engineering Failure Analysis	
6.	UE25ME3608	Digital Manufacturing Practice	1
7.	UE25ME3609	Multiphysics Simulation Practice	2
8.	SDTCD	Technical Skills	2
9.	CASP	Life Skills	0
10.	CIBI	Innovation and Entrepreneurial Skills	1
11.	SA	Environmental Awareness and Community Services	0
12.	SA	Athletics, Sports, Yoga, Gymnasium	0
13.	SA	Cultural & Literary Activities	1
14.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0
15.	CASP	Placement Training	0
Total			23

Semester-7			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME4701	Operation Research	2
2.	UE25ME4702	PLC Integrated Hydraulic and Pneumatic System	3
3.	UE25ME4703	Industrial Automation and Robotics	2
4.	UE25ME4704	Quality Assurance and Reliability Engineering	2
5.	UE25ME4705	Climate Change and Engineering Solutions	2
	UE25ME4706	Product Design and Development	
	UE25ME4707	Energy Systems & Renewable Technologies	
6.	UE25ME4708	Capstone Project Phase-1	4
7.	UE25ME4709	Virtual/Augmented Reality Practice	1
8.	SDTCD	Technical Skills	0
9.	CASP	Life Skills	0
10.	CIBI	Innovation and Entrepreneurial Skills	0
11.	SA	Environmental Awareness and Community Services	0
12.	SA	Athletics, Sports, Yoga, Gymnasium	0
13.	SA	Cultural & Literary Activities	1
14.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	1
15.	CASP	Placement Training	0
Total			18

Semester-8			
Sl. No.	Course Code	Course Title	Credits
1.	UE25ME4801	Engineering Economics and Costing	2
2.	UE25ME4802	Supply Chain Management with SAP	2
	UE25ME4803	Green Engineering and Eco-Design	
	UE25ME4804	Waste-to-Energy Technologies	
3.	UE25ME4805	Internship	4
4.	UE25ME4806	Capstone Project Phase-2	6
5.	SDTCD	Technical Skills	0
6.	CASP	Life Skills	0
7.	CIBI	Innovation and Entrepreneurial Skills	1
8.	SA	Environmental Awareness and Community Services	0
9.	SA	Athletics, Sports, Yoga, Gymnasium	0
10.	SA	Cultural & Literary Activities	0
11.	SASP	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	1
12.	CASP	Placement Training	0
Total			16

20	<p>Program Delivery and Program Attainment</p> <p>The program comprises several courses, each delivered according to the specifications outlined in the course documents. At the conclusion of each course, both course attainments and program attainments are computed. These attainments undergo analysis during Course Assessment Board and Program Assessment Board meetings, leading to recommendations for enhancements in subsequent offerings.</p>
21	<p>Teaching and Learning Methods</p> <ol style="list-style-type: none"> 1. Face to Face Lectures using Audio-Visuals 2. Laboratory work/Field work/Workshop 3. Project Based Learning 4. Problem Based Learning 5. Group Exercises/Assignments 6. Demonstrations 7. Guest Lectures 8. Industry Visit 9. Workshops, Group Discussions, Debates, Presentations 10. Project Work 11. Project Exhibitions 12. Technical Competitions
22	<p>Attendance</p> <p>A minimum of 85% attendance is essential to appear for semester end examinations. Condoning of attendance shortage is as per the Academic Regulations of B. Tech. Programme.</p>
23	<p>Assessment and Grading</p> <ol style="list-style-type: none"> 1. Every course will be assessed for a weight of 100 2. There are 4 components: <ol style="list-style-type: none"> a. Quiz -15% b. Class Tests: 25% c. Application Based open assignments/ Activity/project-based learning/problem-based learning and any such assessment: 20% d. Semester End Examination: 40% 3. Based on total marks scored grade is Awarded. <p>If marks scored is:</p> <ul style="list-style-type: none"> • 91 and above O (outstanding); 81-90 : A+ (Excellent); 71-80: A (Very Good); 61-70: B+ (Good); 51-60 : B (Above Average); 40 -50: C (Average); below 40: D (Not

	<p>satisfactory)</p> <ul style="list-style-type: none"> • If one scores D grade, the candidate is required to re-register for the course (for core courses only, students can exercise their choice in case of electives or open electives –means they can re-register or register for a different elective course) and earn the required credits • A minimum of overall 40% is required for completion of course by acquiring minimum grade (pass) with a minimum of 40% in each component. <p>4. End of each semester –grade card will be issued with SGPA displayed</p>
24	<p>Award of Degree</p> <p>Every student registering for the program need to complete a minimum of 160 credits, completing a minimum of 130 credits in academic courses (Core, elective, open elective) for the award of the degree.</p> <p>Award of Degree Certificate:</p> <p>Students will be issued consolidated grade card with CGPA displayed and GM University Degree Certificate.</p> <p>Award of Gold Medal:</p> <p>A student with highest CGPA (Not less than 9.0 on a scale of 10) in the class without getting a D grade in any course over 8 semester and completing the program within the specified period of 4 years (8 semesters) will be awarded Gold Medal.</p>
25	<p>Student Support for Learning</p> <ol style="list-style-type: none"> 1. Course Notes 2. Reference Books in the Library 3. Magazines and Journals 4. Internet Facility 5. Computing Facility 6. Laboratory Facility 7. Workshop Facility 8. Staff Support 9. Lounges for Discussions 10. Any other support that enhances their learning
26	<p>Quality Control Measures</p> <ol style="list-style-type: none"> 1. Review of Course Notes 2. Review of Question Papers and Assignment Questions 3. Student Feedback

4. Moderation of Assessed Work
5. Opportunities for students to see their assessed work
6. Review by external examiners and external examiners reports
7. Staff Student Consultative Committee meetings
8. Student exit feedback
9. Course Assessment Board (CAB)
10. Programme Assessment Board (PAB)

27. Mapping of POs with Cos.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Course-1												
CO1												
CO2												
CO3												
CO4												
CO5												
CO6												
Course-2												
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Program: B.Tech. in Mechanical Engineering

Board of Studies (BoS): Proceedings of the Meeting

The meeting of the BoS of the **Mechanical Engineering** Program was held on **17.02.2025** at **3.00 PM**. The meeting was held at Board Room, Second Floor, University Building, GM University Campus, Davanagere - 577006.

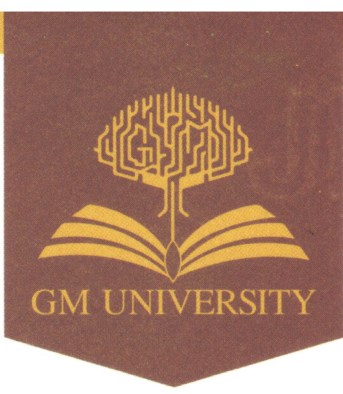
Agenda of the Meeting: To review and approve the new B.Tech in **Mechanical Engineering** undergraduate program curriculum structure and syllabus to be implemented with effect from the academic year **2025-2026**.

Chairperson: Dr. H D Maheshappa, Pro Vice Chancellor, GM University, chaired the meeting. Dr. Srinivasa C V, Head, Department of Mechanical Engineering, welcomed all the members to the first Board of Studies (BoS) meeting.

List of Members Present During the Meeting:

Name of the Person	Designation	Signature
Dr. H D Maheshappa	Pro Vice Chancellor, GM University, Davanagere – 577006	
Dr. Prakash S V	Dean, Faculty of Engineering & Technology, GM University, Davanagere – 577006	
Dr. Praveen J	Director, School of Engineering, GM University, Davanagere	
Dr. Srinivasa C V	Professor & Program Head, GM University, Davanagere	
Dr. Nagesha N	Professor, Department of Industrial Production & Engineering, UBDT College of Engineering, Davanagere	
Dr. P B Nagaraj	Professor, Department of Mechanical Engineering, M S Ramaiah Institute of Technology, Bengaluru	
Mr. Mallikarjuna V Bidari	Assistant Professor, Dept. of Mechanical Engg., GM University, Davanagere	
Mr. Anil Kumar	Assistant Professor, Dept. of Mechanical Engg., GM University, Davanagere	
Mr. Dileepkumar S G	Assistant Professor, Dept. of Mechanical Engg., GM University, Davanagere	





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The Pro Vice Chancellor confirmed the quorum, and the agenda was taken up for discussion. Mr. Mallikarjuna V B, Program Coordinator, made a detailed presentation on Program Curriculum Structure and Syllabus Contents, covering:

- The necessity for curriculum
- Key program highlights
- Curriculum structure and syllabus
- Innovative learning methodologies
- Scheme of evaluation
- Criteria for degree award
- Program Educational Objectives (PEOs)
- Program Specific Outcomes (PSOs)
- Key takeaways and expected competencies of graduates

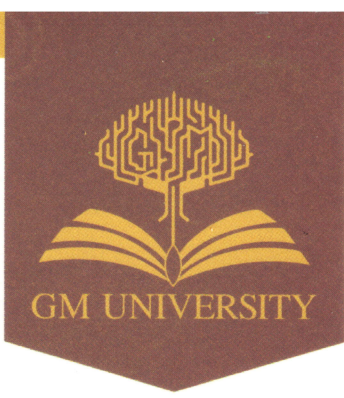
Expert Committee Recommendations:

Program Specific Outcomes (PSOs) should be designed to address local industry requirements, environmental challenges, regional aspects, and national initiatives like "Make in India." The attainment of PSOs should be effectively assessed and specifically aligned with the program objectives.

The course objectives for each subject should be limited to six to eight and revised for clarity and relevance. Any excessive objectives should be integrated into the lesson plan rather than being listed separately.




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Course structure and balancing should incorporate Operations Research (OR) or Optimization Techniques to enhance students' analytical skills. The existing structure of internship, project phases, and theoretical subjects should be modified, as including three theory subjects along with an internship and project phase in a single semester is impractical. If the course is conducted in an online teaching mode, the current structure may be suitable. A recommended approach is to dedicate one semester to coursework and another semester to the project phase along with other relevant courses.

Course Outcomes (COs) and Program Outcomes (POs) mapping should be well-defined to ensure proper alignment with learning objectives and program outcomes.

The meeting concluded with the approval of the revised curriculum structure and syllabus, incorporating the above recommendations for the B.Tech in Mechanical Engineering program.

The meeting concluded at **6.00 PM** with a vote of thanks by Mr.Dileepkumar S G, Assistant Professor, Dept. of Mechanical Engineering. He expressed gratitude to all members for their valuable contributions in refining the curriculum.




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Action Plan for Implementation:

To address the Expert Committee's recommendations, a faculty meeting was successfully convened on 18.02.2025 at 10:30 AM with the following agenda:

- Revise and align **Program Specific Outcomes (PSOs)** with local industry, environmental challenges, and national initiatives like "Make in India."
- Limit **course objectives** to five or six per subject for clarity, integrating any excess into lesson plans.
- Revise **course structure** to incorporate Operations Research (OR) or Optimization Techniques, separating coursework and project phases for a more practical approach.
- Redefine **Course Outcomes (COs)** and **Program Outcomes (POs)** mapping for better alignment.

The necessary revisions were completed, reviewed, and implemented. The updated curriculum has been submitted to the university office for official documentation.

Faculty and Technical Staff Attendees of the Follow-up Meeting:

Teaching Staff Members:

Sl. No.	Name	Signature
1	Dr. Srinivasa C V	
2	Dr. Bharath K N	
3	Dr. Basavarajappa D N	
4	Dr. Harsha H M	
5	Mr. Mallikarjuna V Bidari	
6	Mr. Anil Kumar	
7	Mr. Dileepkumar S G	



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8	Dr. Basavarajappa S	
9	Mr. Prashanth H R	
10	Mr. Suresh Babu S U	
11	Mr. Mownesh G K	
12	Mr. Siddaraj S B	
13	Mr. Sandeep S H	
14	Mr. Mallikarjuna M S	

Technical Staff Members:

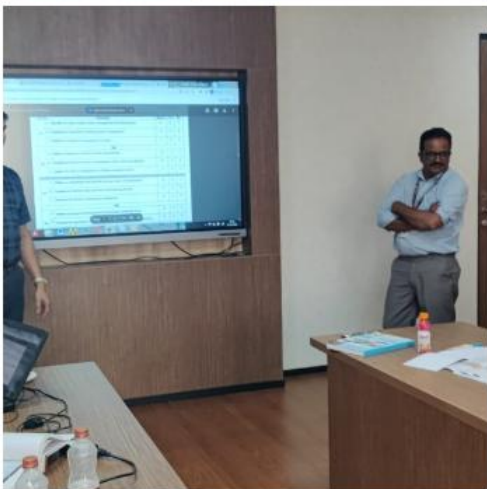
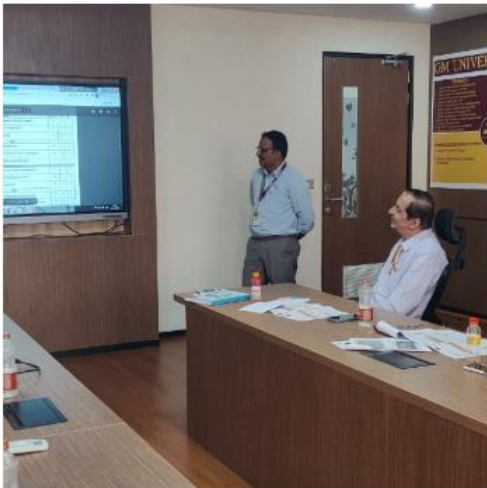
Sl. No.	Name	Signature
1	Mr. Santhosh J G	
2	Mr. Kumarswamy K	
3	Mr. Shankar N R	
4	Mr. Honnappa J K	

Summary:

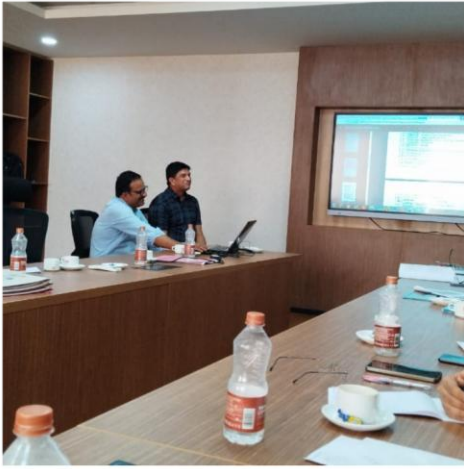
In alignment with the Expert Committee's recommendations, the curriculum updates have been successfully implemented, enhancing students' technical skills and ensuring that the program meets current industry standards and practices. These revisions address key areas such as industry relevance and clear alignment of course objectives, thus preparing graduates to excel in evolving engineering landscapes.

Next Meeting Date:

"Glimpses of the BoS Meeting: Key Moments & Discussions"



"Glimpses of the BoS Meeting: Key Moments & Discussions"



Invitation to Board of Studies Meeting

3 messages

Dr. SRINIVASA C V <srinivasacv@gmit.ac.in>

Thu, Feb 13, 2025 at 10:11 AM

To: Nagesha N <nnvebs@gmail.com>

Cc: Pro VC GMU <pro-vc@gmu.ac.in>, Registrar GMU <registrar@gmu.ac.in>, Dean Faculty of Engineering & Technology <dean.fet@gmu.ac.in>, Dr Praveen J Director - School of Engineering - SE <dir.se@gmu.ac.in>

Bcc: Mallikarjuna Bidari <mallikarjunab@gmit.ac.in>, Anil Kumar <anilk@gmit.ac.in>, Dileep Kumar <dileepkumar@gmit.ac.in>

Dear Sir,

It is with great respect and appreciation that we extend a warm invitation for your esteemed presence at the upcoming Board of Studies meeting. Your valuable insights and guidance play a crucial role in enhancing the academic framework of GM University, Davangere.

This meeting presents an opportunity to deliberate on significant academic matters, exchange ideas, and make informed decisions that will shape the future of our educational programs. Your expertise and suggestions will be instrumental in refining our curriculum and ensuring the highest standards of academic excellence.

Agenda:

1. Discussion on the Scheme and Course Contents of the B.Tech in Mechanical Engineering UG Program.

Meeting Details:

Venue: Conference Hall, 2nd Floor, Central Library, GM University Campus

Date & Time: 17th February 2025 at 3:00 PM

For your kind perusal, a draft copy of the Scheme and Course Contents has been attached. We would be honored by your presence and look forward to an engaging and insightful discussion. Kindly confirm your availability at your earliest convenience. Should you require any further information, please feel free to reach out.

Thank you for your time and continuous support.

With sincere regards,

Dr. SRINIVASA C.V. B.E., M.Tech.(Design.Engg.), Ph.D.(Solid Mechanics)

Professor & Head

Department of Mechanical Engineering

GM I.T., Davangere, Karnataka, INDIA-577 006

Mobile: +91 94485 88792/+91 9480363630

Mail: srinivasacv@gmit.ac.in / drchikkol@gmail.com

Telephone and fax numbers:

Office; +918192-233345/77 Extn: 151

Fax: +918192233344



Nagesha N <nnvebs@gmail.com>

Fri, Feb 14, 2025 at 6:17 AM

To: "Dr. SRINIVASA C V" <srinivasacv@gmit.ac.in>

Cc: Pro VC GMU <pro-vc@gmu.ac.in>, Registrar GMU <registrar@gmu.ac.in>, Dean Faculty of Engineering & Technology <dean.fet@gmu.ac.in>, Dr Praveen J Director - School of Engineering - SE <dir.se@gmu.ac.in>

Thanks, I will be there.

Dr. N. Nagesha

Professor & Chairman

Department of Industrial & Production Engineering

University BDT College of Engineering

(A Constituent College of VTU, Belagavi)

Davanagere - 577 004

Karnataka, India

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Dr. SRINIVASA C V <srinivasacv@gmit.ac.in>

Thu, Feb 13, 2025 at 5:06 PM

To: Nagesha N <nnvebs@gmail.com>

Dear Sir,

Thank you for accepting our invitation to the **Board of Studies meeting on 17th February 2025 at 3:00 PM**. We truly appreciate your time and valuable contributions towards shaping the academic framework of GM University.

We look forward to a fruitful discussion and your esteemed guidance.

Best Regards

Dr. SRINIVASA C.V. B.E., M.Tech.(Design.Engg.), Ph.D.(Solid Mechanics)

Professor & Head

Department of Mechanical Engineering

GM I.T., Davangere, Karnataka, INDIA-577 006

Mobile: +91 94485 88792/+91 9480363630

Mail: srinivasacv@gmit.ac.in / drchikkol@gmail.com

Telephone and fax numbers:

Office; +918192-233345/77 Extn: 151

Fax: +918192233344

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Dr. SRINIVASA C V <srinivasacv@gmit.ac.in>

Invitation to Board of Studies Meeting

3 messages

Dr. SRINIVASA C V <srinivasacv@gmit.ac.in>

Thu, Feb 13, 2025 at 10:12 AM

To: nagarajpb21@gmail.com

Cc: Pro VC GMU <pro-vc@gmu.ac.in>, Registrar GMU <registrar@gmu.ac.in>, Dean Faculty of Engineering & Technology <dean.fet@gmu.ac.in>, Dr Praveen J Director - School of Engineering - SE <dir.se@gmu.ac.in>

Bcc: Mallikarjuna Bidari <mallikarjunab@gmit.ac.in>, Anil Kumar <anilk@gmit.ac.in>, Dileep Kumar <dileepkumar@gmit.ac.in>

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Thank you for your time and continuous support.

With sincere regards,

Best Regards

Dr. SRINIVASA C.V. B.E., M.Tech.(Design.Engg.), Ph.D.(Solid Mechanics)

Professor & Head

Department of Mechanical Engineering

GM I.T., Davangere, Karnataka, INDIA-577 006

Mobile: +91 94485 88792/+91 9480363630

Mail: srinivasacv@gmit.ac.in / drchikkol@gmail.com

Telephone and fax numbers:

Office; +918192-233345/77 Extn: 151

Fax: +918192233344

nagaraj p b pattana basavaraj <nagarajpb21@gmail.com>
To: "Dr. SRINIVASA C V" <srinivasacv@gmit.ac.in>

Thu, Feb 13, 2025 at 10:26 AM

Thank u sir, I will attend the meeting
Dr.P.B.Nagaraj
Professor
Department of Mechanical Engineering
M S Ramaiah Institute of Technology
Bangalore-560 054
Ph:8197272268,9448948333
email: nagarajpb21@gmail.com

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Dr. SRINIVASA C V <srinivasacv@gmit.ac.in>
To: nagaraj p b pattana basavaraj <nagarajpb21@gmail.com>

Thu, Feb 13, 2025 at 10:29 AM

Dear Sir,

Thank you for accepting our invitation to the **Board of Studies meeting on 17th February 2025 at 3:00 PM**. We truly appreciate your time and valuable contributions towards shaping the academic framework of GM University.

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Best Regards

Dr. SRINIVASA C.V. B.E., M.Tech.(Design.Engg.), Ph.D.(Solid Mechanics)
Professor & Head
Department of Mechanical Engineering
GM I.T., Davangere, Karnataka, INDIA-577 006
Mobile: +91 94485 88792/+91 9480363630
Mail: srinivasacv@gmit.ac.in / drchikkol@gmail.com
Telephone and fax numbers:
Office; +918192-233345/77 Extn: 151
Fax: +918192233344

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GM UNIVERSITY

0 P. B. Road, Davanagere, Karnataka - 577 006
Toll Free No.: 1800 123 7099, Ph: +91 93640-99720 /721
E: info@gmu.ac.in • www.gmu.ac.in

Date: 17/02/2025

To
Dr. Nagesha N
Professor,
Department of Industrial & Production Engineering,
UBDT College of Engineering, Davanagere - 577004

Subject: Appreciation for Your Guidance and Participation in the BOS Meeting

Dear Sir,

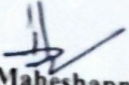
On behalf of the Department of Mechanical Engineering, GM University, Davanagere, we extend our sincere appreciation for your invaluable presence and insightful contributions during the Board of Studies (BOS) meeting held on 17/02/2025.

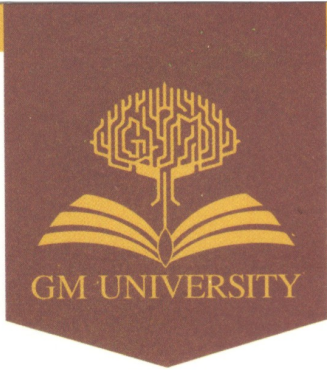
Your expertise and thoughtful recommendations have been instrumental in refining our curriculum and strengthening our academic framework. Your insights into industry trends, research advancements, and best practices will greatly benefit our faculty and students, ensuring a forward-thinking and industry-relevant education.

We deeply appreciate the time and effort you dedicated to reviewing our academic programs and providing constructive feedback. Your guidance will play a pivotal role in shaping the future of our students and enhancing the overall quality of our programs.

We look forward to your continued support and collaboration in the future.

With warm regards,


Dr. H D Maheshappa
Pro Vice Chancellor,
GM University, Davanagere - 577006
PRO-VICE CHANCELLOR
GM UNIVERSITY
P. B. ROAD, DAVANAGERE - 577 006.



GM UNIVERSITY

P. B. Road, Davanagere, Karnataka - 577 006
Toll Free No.: 1800 123 7099, Ph: +91 93640-99720 /721
info@gmu.ac.in www.gmu.ac.in

Date: 17/02/2025

To
Dr. P B Nagaraj
Professor,
Department of Mechanical Engineering,
MSRIT, Bengaluru – 560054

Subject: Appreciation for Your Guidance and Participation in the BOS Meeting

Dear Sir,


On behalf of the Department of Mechanical Engineering, GM University, Davanagere, we extend our sincere appreciation for your invaluable presence and insightful contributions during the Board of Studies (BOS) meeting held on **17/02/2025**.

Your expertise and thoughtful recommendations have been instrumental in refining our curriculum and strengthening our academic framework. Your insights into industry trends, research advancements, and best practices will greatly benefit our faculty and students, ensuring a forward-thinking and industry-relevant education.

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With warm regards,


Dr. H D Maheshappa
Pro Vice Chancellor,
GM University, Davanagere – 577006
PRO-VICE CHANCELLOR
GM UNIVERSITY
P. B. ROAD, DAVANAGERE - 577 006.

Biography of Dr. Nagesha N



Dr. N. Nagesha is a distinguished academician, researcher, and professor at **UBDT College of Engineering**, Davanagere, Karnataka, India. With over **26 years** of experience in teaching, research, and industry, Dr. Nagesha is a respected figure in the field of **Industrial and Production Engineering**, specializing in **Energy Management, Cleaner Production, Sustainable Development**, and issues related to **MSMEs**.

Educational Qualification

- **D.M.E.** (Diploma in Mechanical Engineering)
- **B.E.** (Bachelor of Engineering)
- **M.E.M.** (Master of Engineering Management)
- **Ph.D.** (Indian Institute of Science, IISc Bengaluru)

Designation

- **Chairperson and Professor**
- **Department of Industrial and Production Engineering**, UBDT College of Engineering, Davanagere

Contact Information

- **Email:** nnvebs@rediffmail.com, nnvebs@gmail.com
- **Mobile:** +91 9480177168
- **LinkedIn:** [linkedin.com/in/nagesha-n](https://www.linkedin.com/in/nagesha-n)

Area of Specialization

- Energy Management
- Cleaner Production
- Sustainable Development
- Issues Pertaining to MSMEs

Work Experience

- **Teaching & Research:** Over **26 years** of experience in academia, conducting research, and delivering lectures at the undergraduate, postgraduate, and doctoral levels.

- **Industry Experience: 4 years** of experience in the industry, applying engineering principles to real-world problems and practices.

Research Publications

- **118 publications** in national and international journals.
- **36 International Journal Papers.**
- **03 National Journal Papers.**
- Authored **01 Book** published by LAP, Germany.
- Contributed **14 chapters** in edited books (**10 international** and **4 national**).
- **43 papers presented at International Conferences**, and **21 at National Conferences**.

Editorial Board Membership

- Editorial board member for **4 journals** in the field of energy, engineering, and policy studies.

Research Guidance

- Guided **12 Ph.D. scholars** (7 awarded, 5 ongoing).
- Reviewer for journals like **International Journal of Energy Technology & Policy**, **World Journal of Engineering & Physical Sciences**, and **International Journal of Advanced Agricultural Research**.

Short Term Courses

- Attended **67 offline courses** (STTP/FDP/Workshop/Seminar) and **36 online courses**.
- Conducted **16 short-term courses**, including **FDP/STTP/Workshops**.

Membership and Recognitions in Professional Bodies

- **Fellow of IE(I)**, Member (F118443-8).
- Life Member: **ISTE, IIPE, QCFI, IIM, CSI, IIScAA**.

Administrative Experience

- **Chairman**, Department of Industrial and Production Engineering, UBDTCE (since March 2017, and August 2011 - January 2014).
- **Dean**, Infrastructure & Planning, UBDTCE (October 2019 - June 2023).
- **Coordinator**, MBA Program, UBDTCE (February 2013 - January 2014).
- **Director**, STEP-UBDTCE (March 2006 - December 2010).
- **Proctor** (2014-2015) and **Student Welfare Officer** (2005-2006) at UBDTCE.
- **President**, UBDTCE Cooperative Society.
- **Chairman**, BoE/BoS (IP) - VTU; Member of BoS - KLETU, Hubballi; JSSSTU, Mysuru; RIT, Bengaluru.

Awards and Achievements

- **IEA Gold Medal** of IISc for Best Ph.D. Thesis (2005-06).
- **Best Research Paper Award** at **COSMAR-2004** (IISc).
- **Academic Achievement Award** from UBDTCE (2011/12).
- **Outstanding Engineer Award** by IEI (2018).
- **1st Rank** in M.E., **4th Rank** in B.E., and **2nd Rank** in DME.

For more details, visit Dr. Nagesha's [UBDTCE Profile](#).

Biography of Dr. P. B. Nagaraj



Dr. P. B. Nagaraj is a distinguished Professor in the Department of Mechanical Engineering at M. S. Ramaiah Institute of Technology (MSRIT), Bengaluru, with over two decades of academic and research experience. He is a renowned expert in the fields of thermo-mechanical modeling, heat transfer applications, and renewable energy systems. Dr. Nagaraj's professional career is marked by significant contributions to both the mechanical engineering industry and academia, alongside an unwavering commitment to research excellence.

Education:

Dr. Nagaraj holds a Bachelor's degree in Mechanical Engineering, a Master's degree in Thermal Engineering, and a Doctorate (Ph.D.) in Mechanical Engineering. His doctoral research focused on advanced heat transfer mechanisms and their practical applications in engineering systems, a field in which he continues to make substantial contributions.

Research Interests and Expertise:

- **Thermo-Mechanical Modeling:** Investigating the behavior of materials under thermal and mechanical stresses.
- **Heat Transfer Applications:** Developing efficient methods for heat exchange in mechanical and industrial systems.
- **Renewable Energy Systems:** Exploring sustainable technologies, particularly solar and wind energy, to meet global energy demands.
- **Computational Fluid Dynamics (CFD):** Applying CFD techniques to solve complex fluid flow and heat transfer problems in engineering applications.

Publications:

Dr. Nagaraj has authored and co-authored numerous research papers published in leading international journals and conferences. His research work spans across key areas such as heat transfer, thermodynamics, renewable energy, and computational modeling. His contributions have been instrumental in advancing knowledge in the mechanical engineering domain.

Awards and Recognition:

- **Outstanding Faculty Award** in Mechanical Engineering from MSRIT for his exceptional contributions to education and research.
- Recognition for his ground-breaking work in heat transfer and renewable energy.
- Invitations to present at national and international conferences, where he shares his valuable insights with the global academic community.

Professional Memberships:

- **Indian Society of Heat and Mass Transfer (ISHMT)**
- **Indian Society for Technical Education (ISTE)**
- **American Society of Mechanical Engineers (ASME)**

Research Supervision:

Dr. Nagaraj is a dedicated research mentor, guiding Ph.D. and post-graduate students on advanced research projects. His students engage in cutting-edge research in heat transfer, mechanical systems, and renewable energy, contributing significantly to the field.

Contributions to MSRIT:

At MSRIT, Dr. Nagaraj has played a key role in developing and enhancing the curriculum, promoting research activities, and fostering academic excellence within the Department of Mechanical Engineering. He is actively involved in academic committees, leading workshops, and participating in research projects that align with both industry needs and global technological advancements.

For more details about his academic contributions and research, please visit his profiles on [ResearchGate](#) and [MSRIT IRINS](#).



School: School of Engineering

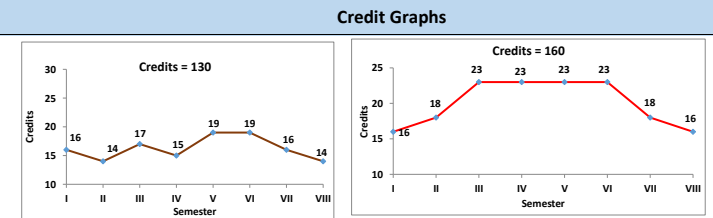
Model Curriculum Design

Program: B. Tech. - Mechanical Engineering

Sl. No	Semester-1		Semester-2		Semester-3		Semester-4		Semester-5		Semester-6		Semester-7		Semester-8		Total Credits
	Course Title	Credits	Course Title	Credits	Course Title	Credits	Course Title	Credits	Course Title	Credits	Course Title	Credits	Course Title	Credits	Course Title	Credits	
1	Fundamental Mathematics	3	Applied Mathematics	3	Advanced Mathematics	3	Measurement Techniques and Electromechanical Systems	2	Design and Modelling of Mechanical Components -I	4	Design and Modelling of Mechanical Components - II	4	Operation Research	2	Engineering Economics and Costing	2	
2	Engineering Physics	3	Engineering Chemistry	3	Engineering Thermodynamics	4	Fluid Mechanics and Machines	4	Heat and Mass Transfer	3	Design and Modelling of Thermal Systems	3	PLC Integrated Hydraulic and Pneumatic System	3	Open Elective - 2	2	
3	Introduction to Mechanical Engineering Systems	3	Engineering Mechanics	2	Mechanics of Materials	3	Theory of Machines	3	Finite Element Methods	3	Instrumentation and Control Engineering	3	Industrial Automation and Robotics	2	Internship	4	
4	Electrical and Electronics Engineering	3	Engineering Graphics	2	Design Codes, Standards, and GD&T Fundamentals	3	Manufacturing Processes and Technologies	2	Applied Dynamics and Vibrations	3	Advanced Manufacturing Processes & Technologies	3	Quality Assurance and Reliability Engineering	2	Capstone Project Phase-2	6	
5	C Programming	2	Python Programming	2	Material Science & Engineering	2	Automotive Engineering and Hybrid Vehicle Technology	2	Professional Elective -1	3	Professional Elective - 2	3	Open Elective - 1	2			
6	C Programming Practice	1	Python Programming Practice	1	MATLAB & Simulink Practice	1	Manufacturing Processes and Technologies Practice	1	HVAC Systems Practice	1	Digital Manufacturing Practice	1	Capstone Project Phase-1	4			
7	Digital Tools for Engineering Applications Practice	1	CAD Modelling Practice	1	Materials Testing and Characterization Practice	1	Measurement Techniques and Electromechanical Systems Practice	1	Finite Element Modelling and Simulation Practice	2	Multiphysics Simulation Practice	2	Virtual/Augmented Reality Practice	1			
		16		14		17		15		19		19		16		14	130

8	Technical Skills	0	Technical Skills	2	Technical Skills	2	Technical Skills	2	Technical Skills	2	Technical Skills	2	Technical Skills	0	Technical Skills	0	10
9	Life Skills	0	Life Skills	1	Life Skills	1	Life Skills	1	Life Skills	0	Life Skills	0	Life Skills	0	Life Skills	0	3
10	Innovation and Entrepreneurial Skills	0	Innovation and Entrepreneurial Skills	0	Innovation and Entrepreneurial Skills	0	Innovation and Entrepreneurial Skills	1	Innovation and Entrepreneurial Skills	0	Innovation and Entrepreneurial Skills	1	Innovation and Entrepreneurial Skills	0	Innovation and Entrepreneurial Skills	1	3
11	Environmental Awareness and Community Services	0	Environmental Awareness and Community Services	1	Environmental Awareness and Community Services	1	Environmental Awareness and Community Services	1	Environmental Awareness and Community Services	0	Environmental Awareness and Community Services	0	Environmental Awareness and Community Services	0	Environmental Awareness and Community Services	0	3
12	Athletics, Sports, Yoga, Gymnasium	0	Athletics, Sports, Yoga, Gymnasium	0	Athletics, Sports, Yoga, Gymnasium	1	Athletics, Sports, Yoga, Gymnasium	1	Athletics, Sports, Yoga, Gymnasium	1	Athletics, Sports, Yoga, Gymnasium	0	Athletics, Sports, Yoga, Gymnasium	0	Athletics, Sports, Yoga, Gymnasium	0	3
13	Cultural & Literary Activities	0	Cultural & Literary Activities	0	Cultural & Literary Activities	0	Cultural & Literary Activities	1	Cultural & Literary Activities	0	Cultural & Literary Activities	1	Cultural & Literary Activities	1	Cultural & Literary Activities	0	3
14	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	0	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	1	Co-Curricular Activities (Seminar/Conference/Exhibition/Technical Competition)	1	2
15	Placement Training	0	Placement Training	0	Placement Training	1	Placement Training	1	Placement Training	1	Placement Training	0	Placement Training	0	Placement Training	0	3
		0		4		6		8		4		4		2		2	30
		16		18		23		23		23		23		18		16	160

Professional Elective-1 (5th Semester)	Credits	Professional Elective-2 (6th Semester)	Credits	Open Elective - 1 : 7th Semester	Credits	Open Elective - 2 : 8th Semester	Credits
Design for Manufacturing and Assembly	3	Aerospace Systems Engineering	3	Climate Change and Engineering Solutions	2	Supply Chain Management with SAP	2
Artificial Intelligence in Mechanical Systems	3	Smart Materials and Structures	3	Product Design and Development	2	Green Engineering and Eco-Design	2
Tribology and Surface Engineering	3	Engineering Failure Analysis	3	Energy Systems & Renewable Technologies	2	Waste-to-Energy Technologies	2



Remarks:
 The curriculum design represents a strategic reorganization that strengthens practical skills and better aligns with industry needs. It offers a balanced approach, combining foundational knowledge with advanced technical expertise, making it more relevant and current, ensuring a well-rounded development of theoretical understanding, practical skills, and professional growth.