

# Newsletter

## Department of Mechanical Engineering



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Madhav Institute of Technology &  
Science, Gwalior-474005

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### Vision

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*"To develop innovative and creative Mechanical Engineers catering the global industrial requirements and social needs".*

### Mission

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1. To prepare effective and responsible graduate engineers for global requirements by providing quality education.
2. To enhance knowledge through project and internship in the field of Mechanical and allied engineering.
3. To guide students in acquiring career-oriented jobs in the field of Mechanical engineering.
4. To provide academic environment of excellence, leadership, ethical values and lifelong learning to cater the need of society by sustainable solutions.

#### Editorial Team

- Mr. Bhupendra Pandey
- Mr. Sayed Faiz Ahmad

#### Students

- Ravi Kushwah
- Aniket Gupta
- Kabir Saraswat

## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

1. Graduates of the program will be able to have successful professional career.
2. Graduates of the program will be able to develop attitude of learning and become adaptable to dynamic industrial and social environment.
3. Graduates of the program will be able to design and develop mechanical system by using skills and knowledge of core competency along with allied engineering skill.
4. Graduates of the program will be able to undertake interdisciplinary research needed to build a sustainable society.

## PROGRAM OUTCOMES (POs)

### **Mechanical and Automobile Engineering Graduates will be able to:**

- PO 1** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 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.
- PO 3** Design/development of solutions: Design solutions for complex engineering 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.
- 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.

- 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.*
- 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.*
- 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.*
- PO 8** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.*
- PO 9** Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.*
- 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.*
- 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.*
- PO 12** Life-long 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.*

### Faculty Outreached

1. Dr. Manish Kumar Sagar, Dr. Dharmendra Jain and Mr. Sharad Agrawal attended an STC on 'Biomedical applications of additive manufacturing using medical image processing' at IIITDM Jabalpur during March 7 to 11, 2020.
2. Mr. Neeraj Mishra attended NASSCOM training on 'Robotics' at IIT Madras from Feb 17 to 28, 2020.
3. Mr. Sayed Faiz Ahmad attended NASSCOM training on 'Cyber Security' at IIT Roorkee from Feb 10 to 21, 2020.
4. Dr. Jyoti Vimal attended an STC on 'Design for manufacture and assembly' at IIT Kanpur from Feb 10 to 14, 2020.
5. Prof. Vedansh Chaturvedi attended an STTP on 'Advances in manufacturing' at NIT Surat from Jan 21 to 25, 2020.
6. Dr. Amit Aherwar and Prof. Sharad Agrawal attended an STC on 'Recent advances in Materials Processing and Materials Tribology' at IIT BHU from Jan 6 to 10, 2020.

### Departmental Activities

#### Expert Talks Organised

##### Design & Development of Product

An expert talk on 'Design & Development of Product' was organised by the department in coordination with Design innovation Centre, MHRD on Feb 27, 2020. In this talk speaker professor PBS Bhadoria discussed his patents with students and encouraged the students to contribute in the development of rural India.

### Interactive Session

An interactive session was organised by the department on Jan 25, 2020. In this session Mr Vijay Kalra, executive director and CEO of Mahindra & Mahindra Ltd. who is also an alumnus of the department of Mechanical Engineering MITS, told students his experience at the college.

He discussed the current scenario and challenges of the automobile industry and told the students the importance of technical knowledge and organisational and interpersonal skills. He also addressed the queries of the students.



### Club Activities

#### Disaster Management and Awareness club activity

Disaster Management and awareness club conducted a one-day activity on various awareness aspects of disaster management in Seminar Hall 2 at 10:30 am on Feb 29, 2020. Mock drill on fire safety was conducted by an expert. Students of various disciplines attended it and gave a presentation on several issues in relation to disaster Management and awareness. The activity was coordinated by Dr Jyoti Vimal and Mr. Vinay Tyagi.



### Students achievement

Students Anand Kushwah received certificate of appreciation from cabinet minister Praduman singh Tomar on Jan 26, 2020 for his work in plantation.

### Projects

S.N.	FACULTY	AGENCY	TITLE	DURATION	AMOUNT	STATUS
1.	Dr. C.S. Malvi	TEQIP-III	Combined power and heat generation through, solar panel using phase change material	2020 onwards (1.5 years)	72,450/-	Ongoing
2.	Mr. Vedansh Chaturvedi	TEQIP-III	Design of Electrodes shade for optimization of ECM process parameters using hybrid Taguchi method for rotational jobs	2020 onwards (1.5 years)	1,00,000/-	Ongoing
3.	Mr. Vaibhav Shivhare	TEQIP-III	Experimental Analysis of Human Lumbar Vertebrae during prolonged sitting and distance Driving.	2020 onwards (1.5 years)	1,78,250/-	Ongoing