Department of Mechanical Engineering

The Department of Mechanical Engineering has been designed keeping in mind the growing demand for specialized courses in the field of mechanical engineering up to the Doctoral Research level. The Department aims to produce quality professionals in the widest and the largest branch of engineering to compete globally and excel by carrying out basic and applied research in emerging areas and forging strong industry-academic interaction. The major strength of the department is its experienced and enthusiastic teaching faculty and well supportive technical staff for laboratories. The department is upcoming with advanced laboratories and workshops that caters to the need of the entire institute. The department is also well equipped with computational facilities and resources both in terms of hardware and software. In addition, the unit of dynamic faculty is working together towards high-end research, consultancy and industrial collaborations. For knowledge addition, the Department is steadfast to organize faculty development programmes, seminars, international and national conferences.

Programme Offered

Programme	Intake	Duration
B. Tech.- Mechanical Engineering	60	04 Years
M. Tech.- Mechanical Engineering	25	02 Years
PhD	As per UGC Norms	

Research Areas

- Corrosion Science & Engineering
- Heat Transfer
- Modelling & Simulation
- Welding
- Alternate Energy Resources
- Conventional & Non-conventional Machining

Infrastructure / Labs

The Department of Mechanical Engineering was established in the year 2016 founded with the mission "**To enrich, empower young minds so that they can recognize their talent and develop it to contribute significantly to the society"**. The department is currently providing the undergraduate program with an intake of 45 and post graduate programme with intake of 25. All the Mechanical Engineering Labs will be well equipped with latest machines / technology with a central workshop and committed to provide the friendly environment to learners. The Faculty is highly qualified, experienced always play a main role in developing the skills of the students. Department encourages students to participate in subject conference and other scientific gatherings.

Projects undertaken by faculty

Project title	Funding agency	Principal Investigator
Study of Plasma Sprayed coatings with Nono-structured materials	A.I.C.T.E., New Delhi under NCP Scheme	Dr Vikas Chawla
Modernization of CAD lab.	A.I.C.T.E., New Delhi	Dr Neel Kanth Grover
Establishment of Innovation and Entrepreneurship Development Centre (IEDC)	Department of Science and Technology	Dr Jujhar Singh (Chief Coordinator)
Failure analysis of trumpet housing	Standard Combines Pvt. Ltd. (Tractor Division), Barnala	Dr Deepak K. Goyal

Faculty

Name	Designation	Research Interests	Experience (Years)
Dr. Vikas Chawla	Professor & Head	Protective Coatings & Surface Engineering, Friction Welding	19
Dr. Neel Kanth Grover	Associate Professor	Heat Transfer, Modelling & Simulation	22
Dr. Deepak Kumar Goyal	Assistant Professor	Surface Engineering, Wear of Materials, Erosion-Corrosion of Materials	14
Dr. Jujhar Singh	Assistant Professor	Conventional and non-conventional machining processes	16
Dr. Amoljit Singh Gill	Assistant Professor	Materials and Manufacturing	06
Dr. Manoj Mittal	Assistant Professor	Surface modification and bio-ceramics coating	22
Dr. Vivek Aggarwal	Assistant Professor	Conventional and Non-Conventional Machining	22
Dr. Amit Bansal	Assistant Professor	Microwave processing of Materials	06

Events Organised

- Engineers day for **Tribute to the greatest Indian Engineer Bharat Ratna Mokshagundam Visvesvaraya and Role of Engineers in a developing India** (Sept. 15, 2017)
- Teachers' Day for **Appreciation and honour of university teachers in a particular field area** (Sept. 5, 2017)
- Techno-cultural programme to **Create innovative experiences that connect, educate and inspire the students** (April 12, 2018)

Faculty Participation/Paper Presentation in International Conferences

- Vikas Chawla (2017), **"Post-plasma-spraying gas nitriding of some metallic coatings on a Fe-based superalloy and their high temperature corrosion behaviour**" presented at *2017 International Thermal Spray Conference & Exposition (ITSC 2017),* Düsseldorf, Germany

Faculty Publications

- Kang, Amardeep Singh, Singh, Gurbhinder and Chawla, Vikas (2018) "**Characterization and Mechanical Behavior of Reinforced Hydroxyapatite Coatings Deposited by Vacuum Plasma Spray on SS-316L Alloy", ***Journal of the Mechanical Behavior of Biomedical Materials (Elsevier)*
- Mehta, Munish, Singh, Jujhar and Singh Manpreet (2017), **Numerical Analysis of Reliability and Availability of a Complex Repairable System,** *Journal of Mechanical Engineering Research and Developments*, Volume 40(4), 94-107.
- Gill, Amoljit Singh and Kumar Sanjeev (2016) **"Surface roughness and microhardness evaluation for EDM with Cu–Mn powder metallurgy tool."** *Materials and Manufacturing Processes*, Volume 31(4), 514-521.
- Aggarwal, Vivek, Khangura, Sehijpal Singh and Garg R. K. (2015) **"Parametric modeling and optimization for wire electrical discharge machining of Inconel 718 using response surface methodology."** *The International Journal of Advanced Manufacturing Technology*, Volume 79 (4), 31-47.
- Bansal, Amit, Sharma, Kumar, Apurbba, Kumar, Pradeep and Das Shantanu (2015) **"Structure property correlations in microwave joining of Inconel-718",** *The Journal of The Minerals, Metals & Materials Society*, Volume 67(9), 2087-2098.
- Kanth, Grover Neel (2015) **"Wear Properties of Cryogenic Treated Electrodes on Machining Of En-31"** *Materials Today*, 1406-1413.
- Mittal, Manoj, Nath S. K and Prakash Satya (2013) **"Improvement in mechanical properties of plasma sprayed hydroxyapatite coatings by Al2O3 reinforcement"** *Materials Science and Engineering*, 2838-2845.
- Goyal, Deepak Kumar, Singh, Harpreet, Kumar, Harmesh and Sahni Varinder (2012**), "Slurry erosion behaviour of HVOF sprayed WC–10Co–4Cr and Al2O3+13TiO2 coatings on a turbine steel",** *Wear (Elsevier)*, Volume 289, 46–57.

Academic Achievements and Awards Won by Faculty

- Dr.Vikas Chawla won the **I.S.T.E. Best Engineering College Teacher Award** for Punjab state for the year 2010 by Indian Society for Technical Education (ISTE), New Delhi.
- Dr.Vikas Chawla won the **Young Scientist Award (Engineering Section)-2011** by Punjab Academy of Sciences, Patiala, Punjab.

Students celebrating Teacher's day

Students participating in skit during techno-cultural programme

Student receiving certificates during techno-cultural programme

Students group receiving certificates during techno-cultural programme