

Salient features of Specialization

Mechanical Design:

- i. Focus areas include advanced mechanics of solids, robotics, dynamics of land and aerial vehicles, vibration and experimental modal analysis, acoustics, development of noise control methods, diagnostics and prognostics of dynamic systems, Computer-aided design, Finite element analysis, design, and optimization, MEMS/NANO
- ii. Hands-on exposure through experiments and design complemented with exposure to state of the art tools like MATLAB, Ansys, Abaqus, Adams, SolidWorks, Creo, Pro/E, Multi-physics software & Multi-body simulator.

Thermofluids:

- i. Aim to impart advanced concepts in fluid flow and heat transfer and will enable students to take up advanced research challenges in this field.
- ii. Training on advanced computational and experimental techniques for investigating fluid flow and heat transfer problems.
- iii. Industry internship and project collaborations

Advanced Manufacturing:

- i. Advanced manufacturing students under this specially designed curriculum will be able to commence academic and industrial research in thematic areas using analytical, computational and experimental tools.
- ii. Dual degree program aims to impart knowledge of fundamentals required to understand the recent manufacturing trends and approaches using the Internet of things, machine learning, sensors, etc. for problem-solving required in modern manufacturing industries.
- iii. Students will acquire knowledge of hybrid processing methodologies; research capabilities associated with miniaturization/smart manufacturing, novel engineering materials, microsystems fabrication, Industry 4.0 and most importantly, will be trained to perform collaborative work with an interdisciplinary approach.
- iv. Facilities to design, develop and manufacture new or modified components for mechanical systems using computer-aided design/modeling software/additive manufacturing