

## **Integrated Dual Degree B.Tech M.Tech Program at IEST, Shibpur**

Integrated Dual Degree Programs are offered in several national and international institutes of repute along with the more traditional Undergraduate Degree Programs. These programs are gradually gaining greater acceptance from the employers, as students are equipped with greater skills required for today's knowledge-based industries. Engineering Science is a new concept of multidisciplinary program that emphasizes enhanced understanding and integrated application of engineering, science and mathematics. IEST, Shibpur is now the only institute in the country to admit students only for Integrated Dual Degree Programs since 2014.

The Dual Degree Programs at IEST, Shibpur are being carefully crafted after integrating inputs from leading national and international experts both from industries as well as academia. Here are some of the highlights of the program.

- Admission of students takes place in one of the parent Engineering Departments- Aerospace Engineering and Applied Mechanics, Architecture and Town Planning, Civil Engineering, Computer Science and Technology, Electrical Engineering, Electronics and Telecommunication, Information Technology, Mechanical Engineering, Metallurgy and Material Science, and Mining Engineering. The curriculum for the first two semesters is common across all the departments except the Architecture and Town Planning. After first year, limited number of students of all departments except Architecture and Town Planning, based on their academic performance and choice, get the option to change parent department.

- Departmental subjects are introduced from 3rd semester onwards. The curriculum is based on a unique mix of basic sciences, humanities, core engineering, and discipline-specific subjects.

- There are many choices of elective subjects, which may or may not be related to the parent discipline.

- Huge emphasis is given on the industrial projects to address real-life issues and problems faced by the industries. Students are encouraged and facilitated to undergo training and internship during summer vacation to industries and/or national and international universities/research laboratories.

- The students need to select specializations of M.Tech degree only after completion of six semesters, when they have sufficient knowledge of the discipline.

- The tentative M.Tech specializations that may be available for each discipline are given below. In most of the cases, the specializations are interdisciplinary in nature.

### **Department**

## **Specializations**

Aerospace Engineering

Aerostructure, Aerodynamics

Civil Engineering

Structural Engineering, Geotechnical Engineering, Transportation Engineering, Water Resources Engineering

Computer Science and Technology

Computer Science and Engineering

Electrical Engineering

Power Electronics, Machines and Drives; Power and Energy Systems; Control Systems and Instrumentation

Electronics and Telecommunication

Microwave Communication, Communication and Signal Processing, VLSI and Micro-Electronics

Metallurgy and Material Science

Physical Metallurgy, Iron and Steel Technology, Surface Engineering

Information Technology

Information Communication and Media Science, Embedded Systems

Mechanical Engineering

Thermal Engineering, Machine Design, Production Engineering

Mining Engineering

Mining Engineering, Geomechanics, Geoinformatics, Environmental Engineering and Management

Other than B. Tech and M. Tech, there may be option for B. Tech and MBA for all engineering disciplines.

- The Master's level courses will commence from 7<sup>th</sup> semester and there will be seamless integration with the Bachelor's level courses.

- All students will be given scholarships in the 9<sup>th</sup> and 10<sup>th</sup> semesters.