Department of Electrical Engineering, School of Engineering
Institute of Technology, Nirma University

NIRMA UNIVERSITY
INSTITUTE OF TECHNOLOGY
NAAC ACCREDITED 'A+' GRADE

M. Tech. in Electrical Engineering (Electric Vehicular Technology)

ABOUT THE PROGRAMME

Transportation systems throughout the globe are witnessing a paradigm shift from conventional internal combustion engine based system to electric energy source based system – Electric Vehicle (EV). Hence, it is the need of the day to have state-of-art knowledge in this field to cater the needs of such Electric Vehicle industries and their ancillaries in a better way. The transformation of mobility from combustion based vehicles to electric vehicle brings along with vehicle manufacturing the need of reliable and efficient charging and battery technology. This programme focusses on imparting education in various domains of electric vehicle like, architecture, dynamics, energy storage, electronics, control, design, instrumentation, communication, safety, grid integration, self-driven capability, etc. The programme is also intended to focuses on design, modeling, analysis and simulations of various equipments, components and conditions of EVs.

ELIGIBILITY CRITERIA

The minimum qualification to M. Tech. in Electrical Engineering with specialization in Electric Vehicular Technology programme is as follows:

- B.E / B. Tech. in Electrical Engineering, Power Electronics Engineering, Electrical and Electronics Engineering, Instrumentation & Control Engineering, Electronics & Instrumentation Engineering, Electronics & Communication Engineering, Electronics Engineering, Mechanical Engineering, Industrial Engineering, Production Engineering, Mechatronics Engineering, Automobile Engineering, or equivalent from the recognized institute, as per university rules.
- GATE qualified in any of the above mentioned disciplines to be considered.
- The candidate must have secured at least 55 % marks aggregate at respective Batchelor's degree.
- Preference will be given to GATE qualified candidates, thereafter vacant seats will be offered to general category candidates.

SELECTION PROCEDURE

For selection procedure information refer M. Tech. admission details available on Nirma University website.

FINANCIAL ASSISTANCE

Eligible GATE candidates admitted to the said programme will receive monthly stipend of Rs. 12,400 /-. Merit based monthly scholarship of Rs. 5000 /- will be provided to limited number of students.

SALIENT FEATURES OF THE PROGRAMME

- Qualified faculty members with doctorate from IISc, NITs and having industry exposure
- Well-developed laboratories, having latest equipment being used by various industries
- High-end tool like OPAL – RT, D-Space, Three-phase programmable supply and PV simulator are available for advanced research work
- Software like PSIM, MATLAB / Simulink, ANSYS, MAGNET, PSIM, Motorsolve, SPEED ETAP, PSCAD, NEPLAN, Altair SolidThinking – Embed, Compose & Activate, and online open access tools are extensively used for design, modelling, simulation and analysis
- Tools for power electronics applications e.g. inverters, choppers, speed control of motors, SMPS, UPS, enable students to carryout projects very effectively
- Expert lecture sessions and regular Industry visits
- Placement of students in leading industries through campus and off – campus interviews e.g. GE, Crompton Greaves (I) Ltd., Bombardier Transportation Ltd., Hitachi HiRel Power Electronics Ltd., Infosys, GETCO, Raychem RPG Ltd. etc.
- Based on competencies, ample opportunity for training and major projects at industries like Hitachi HiRel Power Electronics Ltd., AMTECH Electronics, Electrotherm (I) Ltd., L & T, Colorrol Ltd., ABB, GETCO, ERDA, J K Lakshmi Cement, BHEL, Raychem RPG Ltd, etc.

EVALUATION CRITERIA

The courses of the programme will be evaluated based on two components - Semester End Examination (40 %) & continuous evaluation (60 %). The continuous evaluation will be in the form of sessional examination, class test, term assignments, term paper/innovative assignments and laboratory practical examination.

PROGRAMME OBJECTIVES

- After studying this programme, students will be able to
- Design Electric Vehicles for current and future transportation needs
- Evaluate performance of Electric Vehicles
- Select appropriate components of Electric Vehicles for better performance
- Design and implement the charging infrastructure
- Implement effective vehicle communication systems
- Analyze the impact of Electric Vehicles on the power ecosystem

Important Dates , Refer website: https://nirmauni.ac.in for further admission information

CONTACT US:
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