

VISION

To be one of the world's esteemed training & education academies for advanced education & research in the field of mobility engineering.

in collaboration with

ARAI ACADEMY
THE AUTOMOTIVE RESEARCH
ASSOCIATION OF INDIA, PUNE
(10th year of Academic Excellence)

MISSION

To train, educate and enrich knowledge base of mobility engineers through Industry-Academia interaction with an aim to develop human resources for ever expanding mobility sector.



OBJECTIVE: There are many engineers in industry who are doing basic & applied research and filing patents for their organisation. However, they are not able to pursue further studies due to their efforts towards work-life balance. We would like to orient these engineers towards Research Methodology, which would be a compulsory subject in the credit course.

AREAS OF Ph.D. (AUTOMOTIVE ENGINEERING) PROGRAM AT VIT / ARAI

PowerTrain, Emissions and Alternate Fuels

- Power train Engineering
- Engine Testing and Certification
- Automotive Fuels and Emissions
- Engine Design and Development
- Engine Combustion & Simulation
- Fuels Lubricants & Coolant
- Automotive Transmission

Automotive Materials and Manufacturing and Structural / Vehicle Dynamics

- Engine Material and Failures Analysis
- Advanced Manufacturing Technology
- Automotive Materials & Mfg.
- Vehicle Dynamics & Hardware-in-loop
- Fatigue Analysis
- DFMEA/PFMEA

Safety, Lighting and Component and Vehicle Testing

- Automotive Safety
- Automotive Lighting
- Automotive Engineering System
- Automotive Testing & Certification
- Engine & Vehicle Evaluation
- Impact Injury Biomechanics

NVH, CAE, CFD

- Fundamentals of NVH
- PowerTrain NVH
- Tire Noise
- Finite Element Analysis
- Computational Fluid Dynamics
- Aerodynamics

Electronics & Embedded Systems, Electric & Hybrid Vehicles

- Engine Electronic and Management Systems
- Control Systems
- Model Based Design & RPT
- Automotive Electronics
- Automotive Real Time Embedded Systems
- CAN & CAN open Technology

Special Topics

- Chassis Engineering
- Automotive Styling
- Off Highway
- Vehicle Body Engineering
- 2/3 Wheeler Technology
- Automotive HVAC

Students will need to take minimum of 4 courses in the first year, as prescribed by Doctoral Committee followed by Comprehensive Examination. Ph.D. Research work shall be quantifiable & measurable, with a time plan from 3 to 6 years. Student shall carry out the research work at VIT, ARAI or parent organization and submit report/presentation every semester.

INFRASTRUCTURE:

- **VIT University** has excellent infrastructure like the CAD/CAM Centers, Central Library, Computing Center to name a few. The Mechanical Engineering Department started in 1984 and was renamed as the School of Mechanical & Building Sciences (SMBS) when VIT University received the Deemed University status in 2001. It has well equipped laboratories like the Fluid Mechanics Lab, Thermal Engineering Lab, Advanced Manufacturing Process Lab, Tribology and Machine Dynamics Lab. A state-of-the-art Automotive Research Center was setup, with financial funding from DST, New Delhi in 2003 and Center for Engineering Design, Automotive & Manufacturing Engineering was set up in 2012.
- **ARAI** is a well-known Automotive Research, Development, Testing & Certification Institute in the country. It has state-of-the-art testing facilities and laboratories like the PowerTrain Engineering Lab, Emission Certification Lab, Safety & Homologation Lab, Passive Safety Lab, Vehicle Evaluation Lab, Structural Dynamics Lab, Automotive Electronics Lab, Automotive Materials Lab and NVH & CAE Lab. The students get the latest training, which help them to meet the requirements of the Automotive Industry.

ELIGIBILITY: M.E./M.Tech. in Mechanical/Automobile/Production/Materials & Manufacturing/I.C.Engines/Electrical/Electronics & Embedded System/E&TC/Aerospace Engineering/Mechatronics.

FEES:	Full Time Students	Part Time students	Written Entrance Exam: Refer VIT University website Center : ARAI Pune, VIT Vellore & VIT Chennai. Syllabus : Mechanical Engineering, Automotive Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering.
	Rs.20,000 per year 100% attendance at ARAI or VIT	Rs.1,30,000 in the first two years & Rs.20,000 for the subsequent years.	

HOW TO APPLY: Application forms can be downloaded from VIT University website or can be obtained by contacting:

Director - PG Admissions

VIT University

Vellore-632 014, Tamil Nadu, India.

Phone: + 91-416-220 4600, 220 4700

■ Fax: +91-416-224 5544, 224 9955

Email: pgadmission@vit.ac.in ■ Website: www.vit.ac.in

Dr. K. C. VORA

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A Place to learn; A Chance to grow.