



KCG

COLLEGE OF TECHNOLOGY

(A Unit of Hindustan Group of Institutions)

A Christian Minority Institution



**AUTOMOBILE
ENGINEERING**

**The
Wheels
of the
World**



www.kcgcollege.ac.in

About the Department

Department of Automobile Engineering was initiated in the year 2018 with a sanctioned intake of 60 students. It has a well-qualified Faculty and Staff with tremendous teaching experience, proven ability and administrative skills. It is equipped with state-of-the-art laboratories that cater to meet the needs of the industry.

Department with the full support of College Management, further encourages professional activities for Faculty and Students through various professional bodies. Team Inferno, a racing subsidiary owned by the college and supported by expert staff members and industrial experts, allow for a more robust training experience for the students. Apart from the academic curriculum, value added training, workshops and seminars are given to the students based on their individual interests to gain practical exposure.

Students are constantly encouraged from the beginning to do individual projects which enable them to enrich their technical skills, knowledge empowerment and self-confidence. The department has a high caliber off-road bikes and cars to invoke keen interest among the students in learning the design and technologies used.

The Department maintains a strong Industry relationship with major automobile giants such as BMW, BOSCH, Ford, Ashok Leyland, TVS, TAFE, Hyundai etc., They support us by providing vehicles and engines for the above mentioned training purposes.

VISION

The Department of Automobile Engineering aims at achieving academic excellence in engineering, technology and research by providing unique educational experience which enables the students to cater to the needs of the society.

MISSION

- Impart effectual teaching – learning and training in automobile domain
- Equip with State-of-the-art technology and equipment to manufacture automobile components
- Encourage research relevant to automotive engineering technology for the advantage of the society
- Inculcate engineering methods, knowledge and professional standards in automobile engineering

Department Advisory Board

The Department Advisory Board (DAB) consists of members from academia and industries such as MIT, BOSCH Power tools, RANE Engine Valve Ltd, Crysler Automotive Engineering, Simpson & Co., and Daimler Benz all of which supporting the department terms of enriching the curriculum in order to meet the industrial requirements



Department Activities

To enrich the technical skills and to encourage social activities among students, the Department of Automobile Engineering has been continually imparting following initiatives

- Guest Lectures and Seminars by Technical and Business experts from Automobile Industries
- Workshops, Conferences and Symposium through various forums like Automobile Engineering Association, SAE collegiate club and other clubs
- ICT enabled classrooms makes teaching and learning effective
- Industrial visits, In-plant training and Internship training for better understanding of the latest technology and real-time working environment of the industry
- Focused attention is being given to the slow learners

Laboratories

Students are made to undergo training in a number of laboratories such as

- Automotive Components Laboratory,
- Automotive Fuels and Lubricants Laboratory,
- Automotive Electrical and Electronics Laboratory,
- Two and Three Wheeler Laboratory,
- Computer Aided Engineering and chassis design Laboratory
- Engine performance and Emission Testing Laboratory and Vehicle Maintenance Laboratory.

Automotive Components Laboratory

Students are able to dismantle and assemble the automobile components; understand different types of ignition engines and their respective fuel systems, frames, chassis, transmission and other mounting parts used in various automobiles.

Automotive Fuels & Lubricants Laboratory

Students gain knowledge about testing the fuels and lubricants used in IC Engines; as well as the national and international standards that govern them. Certain characteristics of the fuels and lubricants are explored such as fuel octane and cetane numbers.

Automotive Electrical & Electronics Laboratory

Students are exposed to different methods regarding testing procedures for electrical and electronics system automobiles before gaining the capabilities to diagnose and rectify any fault that may occur with the same.



Two and Three Wheeler Laboratory

Students conduct performance test on two and three wheelers in shock absorber and coil spring; Dismantling and Assembling of two & three wheeler gear box and steering system.

Computer Aided Engine and Chassis Design Laboratory

Students are able to use modeling software to recreate engine components such as piston, connecting rod, crankshaft, flywheel, camshaft, valve etc, along side other major components such as chassis mounting assembly, gearbox assembly and rear axle assembly.

Engine Performance and Emission Testing Laboratory

Students are able to conduct performance, emission, retardation and heat balance tests in SI and CI Engines; The functioning of study of electrical, hydraulic and eddy current dynamometers is also dwelled upon.

Vehicle Maintenance Laboratory

Students will be made to analyze and carry out fault diagnosis on the vehicle's transmission, driveline, braking, suspension, steering, electrical and vehicle air conditioning system.



GO-KART SAE TEAM



E-KART SAE TEAM

Professional Bodies

Department follow Anna University curriculum and syllabus. Besides this through student chapter of Professional Bodies like Society of Automotive Engineers (SAE), Indian Society of New Era Engineers (ISNEE), Fraternity of Mechanical and Automobile Engineers (FMAE), Imperial Society of Innovative Engineers (ISIE), Institution of Engineers, Indian Society for Technical Education, Engineers without borders etc., Mentor the students to participate in various events like SUPRA SAEINDIA, BAJA SAEINDIA, GO-KART/E-KART/QUAD BIKE, FMAE-FFS, FORMULA GREEN which augments their technical and practical knowledge in the field of Automobile Engineering.

BOSCH Training centre

To meet out the requirements of the industry, we expound our students to industrial expectation by providing an exclusive training in BOSCH Training centre in the college. Apart from the regular theory and practical sessions, our students gain exposure and hands-on training with the recent technologies.

By taking this training, the students will get employment opportunities in most of the automobile companies. The newly setup BOSCH lab includes a number of state of the art testing equipment for students to be trained as part of their module including:

- CRDi Engine test rig
- Vehicle Diagnostics
- Automotive Electrical test bench
- Automotive Air-Conditioning system



BOSCH - Automotive Electrical test bench



BOSCH- Automotive Air-Conditioning system



BOSCH – Fuel Injection Test

Career Prospects

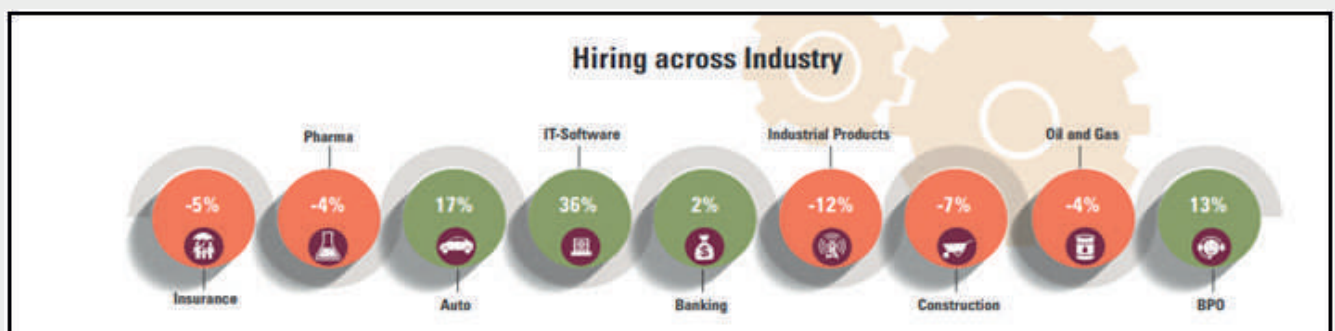
All successful Automobile Engineers

Can have Career prospects in the field of Automobile Engineering such as (but not limited to)

- Automobile Design/Research/Development
- Automobile Safety Engineering
- Automobile Emissions Research and Controls
- Automobile Performance Engineering
- Vehicle Dynamics Control
- Automobile Ancillaries Manufacturing

Can pursue careers in India which is a leading Automobile Industry with below statistics (Courtesy: India Brand Equity Foundation website)

- Indian auto industry became the 4th largest in the world with sales increasing 9.5 per cent year-on-year to 4.02 million units (excluding two wheelers) in 2017
- India was the 7th largest manufacturer of commercial vehicles in 2017
- India is a prominent auto exporter and has a strong export growth expectations for the near future. Automobile exports grew upto 15.54 per cent during April 2018-February 2019
- Several initiatives by the Government of India and the Major automobile players in the Indian market are expected to make India a leader in the two-wheeler and four-wheeler market globally by 2020
- Can pursue career Overseas with Global giant players in Automobile Industry such as Germany, Japan and South Korea
- (Are in great demand both in India and abroad) City of Chennai where the college is located is famously known as the Detroit of India, with lots of Automobile sectors. Hence is a wide range of opportunities and exposure for the students studying in Chennai. Students who completes the degree successfully can join automobile industries like Mahindra & Mahindra, Volvo, Renault Nisan, Ashok Leyland, Lucas TVS, Telco, Maruti Suzuki, Caterpillar, Volkswagen, Ford, Hyundai, Brakes India, Wheels India, RANE, TAFE, Automobile service stations, State road transport corporations, private transport companies, insurance companies, motor vehicle departments etc.,
- The Naukri Job Speak Index highlights there is 17% increased job demand in Automobile sector. Source: <http://www.infoedge.in/pdfs/jobspeak-report-jan-2019.pdf>



Expected Recruiters



Facilities



Receiving Eco Sport vehicle from FORD.



Student working on BMW Engines



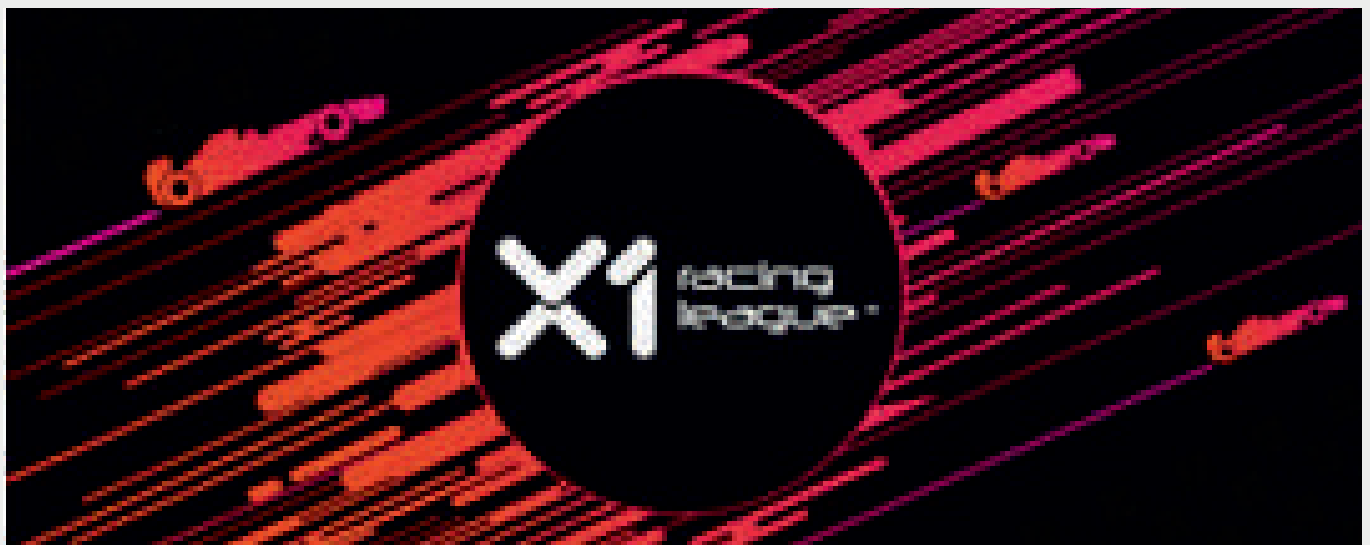
Students Fabricating BAJA vehicle in SAE Laboratory



Joint certification course

X1 racing league

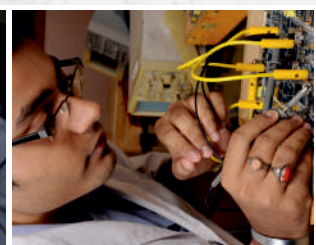
MoU has signed with X1 Racing league, Automobile students are given opportunity to work in the engineering team of the X1 Racing league to build custom made two - seater sports car in India.



Car Simulator- Training certification

Simulation based training enhances initial driver training on different terrains and for different road & atmospheric conditions. Car simulator is used to improve novice driver training and driver education which has complete driver training curriculum to make a skilled and safe driver.





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