AMITY UNIVERSITY - INDIA’S NO. 1 RANKED NOT-FOR-PROFIT PVT. UNIVERSITY

Amity University is a flagship institution of Amity Education Group, India’s leading global education group, established over two decades ago.

Today, the Group has grown to 25 campuses spread over 1,000 acres and includes 9 world-class universities, 25 schools & pre-schools and 10 overseas campuses across London, Singapore, Dubai, New York, California, Mauritius, China, Abu Dhabi, South Africa, Amsterdam and Romania. Amity is home to over 150,000 students pursuing 300 Programmes in 60 diverse disciplines, across pre-school to Ph.D.

AMITY’S ACHIEVEMENTS IN RESEARCH

- Over 900 patents filed by faculty - more patents filed than any other University/Institute of India
- 2,000 case-studies developed by faculty in the last years bought across 99 countries
- Hosted and organised 200 major international conferences recently
- Recognised by Ministry of Science & Technology, Govt. of India as a Scientific & Industrial Research Organisation (SIRO)
- 300 research projects being conducted by faculty, sponsored by Govt. bodies and international organisations like Bill & Melinda Gates Foundation, USAID, Leverhulme Trust & German Research Foundation
- Distinguished faculty and researchers, credited with authoring over 900 books, publishing 7,000 papers and attending 3,700 international & national seminars and workshops

85 acre Amity University Campus, Noida (New Delhi NCR)

Amity University, Sector-125, Noida (New Delhi NCR) India
Ph.: +91-120-4392493
INTRODUCTION

Amity University felt that there is a strong need of industry ready engineers. Hence it was decided to impart engineering education under Academia – Industry partnership. Such partnership certainly helps in providing much needed industrial/practical inputs to various engineering courses. Academic rigour with industry's involvement is the best option to produce real engineers and not only theoretical engineering graduates. Hence Amity University signed a MoU with Tata Technologies; the global technological giant, to have a real academia-industry partnership and established Amity Institute of Technology to jointly offer 4 years B.Tech. programmes in Automobile Engineering, Aeronautical Engineering and Industrial Heavy Machinery Engineering. The institute started from the academic session 2016-17.

OBJECTIVE

To provide excellent education to enthusiastic students for becoming well qualified industry ready engineers in the fields of Automobile Engineering, Aeronautical Engineering and Industrial Heavy Machinery Engineering. In addition to imparting outstanding education, our objective is also to inculcate all the skills and required competencies in our students to make them next-gen engineers in true sense.

AIT offers following B.Tech. Programmes

- B. Tech. (Automobile Engineering) • B.Tech. (Aeronautical Engineering) • B.Tech. (Industrial Heavy Machinery Engineering)

Competency Centres at AIT

1. Technology Competency Centre
2. Innovation Competency Centre
3. Learning Competency Centre
4. Virtual Reality Competency Centre
5. Tear Down and Bench-marking (TDBM) Competency Centre
6. Advance Manufacturing Competency Centre

Technology Competency Centre

The Technology Competency Centre consists of 30 high end work stations, which are loaded with various softwares like Creo Ver 3.2 and CATIA V5. The Competency Centre has virtual tools of all the major OEMs which are used by the industries across globe. Students use these high end facilities and softwares for

- Computer Aided Design (CAD) • Computer Aided Manufacturing (CAM)
- Computer Aided Engineering (CAE) • Product Life-cycle Management

These technologies help students to understand the theory followed by industry domains and lead into creating of individual projects.

In this unique set up of two display monitors per user and with TATA technologies e-learning platform “i-get-it” students will be taught the entire “Concept to Production” life cycle of different components and assemblies used in manufacturing sector mainly in Automotive, Aeronautics and Industrial Heavy Machinery. Students will also be able to work on the real life projects.

These facilities enable students to design any product such as automobile components, assembly of different component and electronic drawing for producing the components using Additive Manufacturing (3D Printers), CNC Milling Machine etc.

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High End Work Stations - Technology Competency Centre
Innovation Competency Centre

The Innovation Competency Centre is a creativity incubator, focused on exploring how new and emerging technologies can fundamentally re-shape the research, academic and service missions of the university. Working with our innovation-minded people, we have built a model program that will elevate and inspire students who are solving problems, big and small, through our ever changing technological environment.

The philosophy behind the Innovation Centre is to have a one stop shop for anyone, regardless of skill and experience, to come in and be able to make a product through an interactive design process known as digital modelling and fabrication. The Centre has been equipped with different machinery like CNC Milling, Laser Cutting, 3D printers etc. that would need to conceive of, design and prototype of all kinds of products and designs.

Learning Competency Centre

This Competency centre is equipped with different automotive components and assemblies, working cut section models ranging from manual steering wheel up to a full vehicle (SUV and Passenger car) to hone and upgrade the skills of the students. This centre has steering wheel, transaxle, Diesel Engine, Petrol Engine, Front Axle, Rear Axle with differential, Engine mock up, Body without conventional Chassis and Body over frame chassis with almost 30 parts cut sections.

The training will be provided on these machines. These training will not only enable the resources to operate these machines but also the process for repairing the machines and its various parts.

Learning Centre is committed to helping students launch successful careers in the automotive industry. The students get involved in vehicle electronics or specialize in engines, axle, gear assembly, wheels etc.
Virtual Reality Competency Centre

The Virtual Reality Competency Centre has 15 workstations, Industrial Visualization software by Siemens and Dassault Systems, a Flight Simulator and Aircraft Landing Gear. Following software packages are installed with 1 license and 5 extra seating.

1. Lockhead Martin Prepared
2. AesX proprietary software for simulation

Following MSC package is installed with 14 licenses each.

- Adams + MSC Apex
- Dytran + Easys + Marc Mentat
- MSC Nastran + Patran
- MSC FEA, AFEA & TFE

Virtual Learning Centre has been established as “Visualization lab for industrial process” using the expertise in Visualization technologies and manufacturing domain. We are developing self-paced interactive e-learning modules which will be delivered through this competency centre.

The advantages of these learning modules to students are designing with no assumption of domain knowledge or technology expertise, self-paced, interactive sessions making learning easier and enjoyable.

Tear Down Benchmarking Competency Centre

The Tear Down Bench Marking Centre has facility for conducting benchmarking studies, studying cost effective designs, instil the principles of Value Engineering, frugal design in students. This also helps instil the philosophy of exploring ideas for innovative products keeping product value in sight. This facility caters to batch of 30 students. The centre consists of different machinery that enables tear down and benchmarking – car lift, air compressor, display trolleys, Computers, engineering toolbox, measuring tools & equipment, special tear down equipment, weighing scale, portable crane, camera, recorders, projectors and cars for tear down.

Display of tables for automobile parts
Advanced Manufacturing Centre

The pedagogy of this Advanced Manufacturing Centre is built on the principles of experiential learning. Our Centre mirrors the work place. The Advanced Manufacturing competency Centre has few component Kuka welding Robot, Robot programming, fixtures for 2D, 3D path, hardware needed for installations etc. The Advanced Manufacturing Centre also has TAL Pick and Place Robot for training of students and providing them with stimulating industry environment.
# Competency Centres

## Intellectual Capital

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<tr>
<th>AIT Team</th>
<th>Industry Advisory Board</th>
<th>Adjunct Faculty from TATA Technologies</th>
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<tbody>
<tr>
<td>Prof. (Dr.) Ravi Prakash, HOI, AIT</td>
<td>Mr. Warren Harris Managing Director and Chief Executive Officer TATA Technologies</td>
<td>Full Time Adjunct Faculty from TATA Technologies</td>
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<tr>
<td>Dr. Sanjay Singh, HoD, Aeronautical Engineering</td>
<td>Mr. Anand Bhade President of Asia Pacific TATA Technologies</td>
<td>Mr. V K Joshi Program Director-Aeronautical Engineering TATA HAL Technologies</td>
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<tr>
<td>Prof. Vivek Kumar, HoD, Automobile Engineering</td>
<td>Dr. Rajarajan Shanmugam CEO TATA HAL Technologies</td>
<td>Mr. Anil A. Kelapure Program Director-Automobile Engineering, TATA Technologies</td>
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<td>Dr. Eswara Krishna Mussada, AP-III, AIT</td>
<td>Mr. Pushkara Kaulgil Global Cat Director (Electrical, Electronics, Software Systems) TATA Technologies</td>
<td>Prof. Debashis Ganguly Sr Consultant, TATA Technologies</td>
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<td>Dr. Anil Kumar, AP-II, AIT</td>
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<td>Mr. Manish Kumar Sharma TATA Technologies</td>
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<td>Dr. Shaikendra Singh Chauhan, AP-II, AIT</td>
<td>Mr. Ithiqaq Ahmed Khan Program Manager TATA Technologies</td>
<td>Mr. Harish S. Consultant, TATA HAL Technologies</td>
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<tr>
<td>Dr. Gurpreet Singh Saini, AP-II, AIT</td>
<td>Mr. Sushil Kumar, Director Government Projects &amp; Skill Development TATA Technologies</td>
<td>Mr. Rahul Sharma TATA Technologies</td>
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<td>Mr. Rohit Yadav TATA Technologies</td>
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<td>Mr. Sadhnaa Paliwal, TATA Technologies</td>
<td>Mr. Ithiqaq Ahmed Khan, Programme Manager, TATA Technologies</td>
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<td>Mr. Muthukumaraswami A, Consultant, TATA HAL Technologies</td>
<td>Mr. A. J. Seth, Consultant, TATA HAL Technologies</td>
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<td>Mr. R. S. Ganesan, Consultant, TATA HAL Technologies</td>
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## Faculty In-charges for Competency Centre:

I. Technology Competency Centre – Mr. Rahul Sharma, TATA Technologies
II. Learning Competency Centre – Mr. Manish Sharma, TATA Technologies
III. Virtual Reality Competency Centre – Mr. Harish S., TATA HAL
IV. Tear Down and Bench-marking (TD&BM) Competency Centre – Mr. Rohit Yadav, TATA Technologies.
V. Advance Manufacturing Competency Centre – Mr. Anil A. Kelapure, Consultant, TATA Technologies
VI. Innovation Competency Centre – Mr. Rahul Sharma, TATA Technologies