## TATA TECHNOLOGIES





## CENTER FOR INVENTION, INNOVATION, INCUBATION AND TRAINING

I. K. Gujral Punjab Technical University

Tata Technologies

Engineering a *better world.* 

#### **About Tata Technologies**



Tata Technologies makes product development dreams a reality by designing, engineering and validating the products tomorrow for the world's of leading manufacturers. With more than 9400 professionals serving clients worldwide, Tata Technologies is the manufacturing industry's premier partner for advanced engineering, research and development, product lifecycle management consultancy and software, and connected enterprise IT solutions. Tata Technologies 17 global delivery centers spread across India, US, UK, Sweden, Romania, Singapore, China, Japan and Thailand help cater the Automotive, Aerospace and Industrial Heavy Machinery industries

Tata Technologies partners with the world's most successful Automotive and Industrial Heavy Machinery manufacturers to deploy effective vehicle programs, drive efficiencies and innovation throughout the entire product life cycle, deliver discrete work packages to complete endto-end design & development and achieve faster time to market. Strategically positioned within the Tata Group as a global provider of comprehensive services for the Aerospace and Defense industry, we cover every aspect of the value chain including design, manufacturing productivity engineering, improvement, digital manufacturing, process optimization and onwards into aftermarket / MRO support.

### About I. K. Gujral Punjab Technical University

I. K. Gujral Punjab Technical University was established by an Act of State Legislature on 16th January 1997 to promote technical, management and pharmaceutical education in the state of Punjab at degree level and above. It was established as Punjab Technical University and renamed as I.K. Gujral Punjab Technical University by State Government in the honor of Late Sh. Inder Kumar Gujral, Former Prime Minister of India in 2015.

The University has the mandate to set up centers of excellence in emerging technologies and for promoting training, research and development in these areas. The University has undertaken the task of training students to help in the development of skilled manpower in this sector in the country in general and in the state in particular. With this goal in mind, the university is promoting a number of courses in different streams in regular as well as distance education programs.



# Center for Invention, Innovation, Incubation and Training (CIIIT)

I.K. Gujral Punjab Technical University (IKGPTU) and Tata Technologies have set up 5 Centers for Innovation, Invention & Incubation (CIIITs) in Punjab to promote technical education. The objective of establishing these CIIITs is to facilitate innovation and work towards bringing about qualitative improvements in technical education. This will be done by strengthening industry-academia partnerships and training students with industrial experiential learning. The long-term goal is to create a skilled manpower pool and enhance employability prospects of students in the manufacturing sector.

### **Objectives of CIIIT**

- Promote Invention, Innovation and Incubation.
- Strengthen the Industry–Academia.
- Train students in Industrial Experiential learning
- Build a skilled workforce pool to cater to the current and future industrial landscape.
- Develop techniques, skills and modern engineering tools necessary for product design, development and manufacturing.
- Develop competency to analyze a problem, and identify, articulate and use the appropriate computing and engineering requirements for obtaining its solution.
- Develop competency for designing a system, components, process to meet ever-demanding performance and safety standards within realistic constraints such as economic, environmental, manufacturability, and sustainability.
- Enable candidates to take up industry-relevant skill training that will improve their theoretical as well as practical knowledge and help them in securing a better livelihood by bringing necessary synergy, oversight and effective coordination.

#### **Product Design and DevelopmentCenter**

#### **Center Details**

Product Design and Development Center is an industry simulated environment with the latest technology tools used by major industries for product design & development. This center consists of high-end industrial workstations, which are loaded with advanced tools used for Product Design and Development, Durability Analysis, Crash Analysis, NVH Analysis, Digital Manufacturing, Product Lifecycle Management etc.

- Design and Engineering
- Virtual Verification and Analysis
- Product Lifecycle Management

#### **Domain Exploration Center**

#### **Center Details**

This Domain Exploration Center is equipped with different components, assemblies and working models cut section ranging from manual steering wheel up to a full vehicle (SUV, passenger car and tractor cut sections etc.). This training will not only enable the students to operate these machines but also helps to understand repair and maintenance process.

- Powertrain
- Chassis
- Body Engineering
- Electrical & Electronics
- Assembly Integration





#### **Mechatronics and IOT Center**

#### **Center Details**

Mechatronics is an integration of interdisciplinary technologies mainly mechanical, electronics and electrical. Today every industry is facing a challenge to integrate and automate many features for any system. With mechatronics, it is now easy to have simplified designs, rapid machine setups, cost effectiveness, quick development trials, optimized performance, productivity and reliability. Mechatronics gives enhanced features and functionality with user friendly approach. It also provides lower cost with precision control and flexible reprogrammable design.

Internet of Things (IoT) Center is an intelligent environment which enables practical learning about bits and pieces of smart living. It offers background and handson experience in the cutting-edge areas of internet of Things (IoT) and wireless sensors networking applications such as, Smart Home, Smart Office, Healthcare applications and Environmental applications.



- Internet of Things
- Green Initiatives

#### Integrated Advanced Manufacturing Center

### **Center Details**

Advanced manufacturing is the production of complex machines through the application of advanced technology in manufacturing processes and product design. It covers a whole host of new industrial processes unlike the traditional methods in quality, speed, and cost. Integrated Advance Manufacturing enables high performance and low unit cost through new processing techniques, use of information technology and a highly skilled laborforce.

It utilizes all the enabling technologies, incorporating design and business process innovation to deliver high value-added processes and products in ways that are novel and competitive.

This Center facilitates experiential learning pertaining to various manufacturing processes which are used in manufacturing industries.

- Computer Integrated Manufacturing
- Industrial Robotics
- Manufacturing Execution Systems
- Advanced Manufacturing
- Reverse Engineering
- Plastic Additive Manufacturing



## **CIIIT Sultanpur-Lodhi Training Plan**

S. No.	Course Name	Duration	Eligibility	No of Students per batch			
Product Design and Development Center							
1.	Design & Engineering	3 months (2 Hours per day)	B.Tech./B.E/M.Tech/M.E (Final year students are also eligible)	20			
2.	CAD Engineering + Product Lifecycle Management	3 months (2 Hours per day)	Diploma / ITI (Final year students are also eligible)	20			
3.	Virtual Verification & Analysis	3 months (2 Hours per day)	B Tech / Diploma / ITI (Final year students are also eligible)	20			
Integrated Advanced Manufacturing Center							
4.	Industrial Robotics	3 months (2 Hours per day)	Diploma / ITI (Final year students are also eligible)	40			
5.	Advanced Manufacturing	3 months (2 Hours per day)	B.Tech./B.E/M.Tech/M.E (Final year students are also eligible)	40			
6.	Manufacturing Processes	3 months (2 Hours per day)	Diploma / ITI (Final year students are also eligible)	40			
7.	Additive Manufacturing & Reverse Engineering	3 months (2 Hours per day)	Diploma / ITI (Final year students are also eligible)	40			
8.	Manufacturing Execution System	3 months (2 Hours per day)	Diploma / ITI (Final year students are also eligible)	35			

### **Training Criteria**

- Non IKGPTU students are also eligible as per above mentioned qualification criteria.
- To start the training, minimum number of students per batch should be more than 70% of planned batch size.
- For Manufacturing Processes course, candidates with at least a turner or fitter trade certificate with minimum age of 18 years are also eligible.
- For Industrial Robotics course, candidates with at least a welder trade certificate with minimum age of 18 years are also eligible.
- 15 minutes break within each Training slot.

### **Contact Details**

Name: Dr. Neel Kanth Grover Mobile: +91 9855 857 900 email: <u>Dr.neelkanthgrover@ptu.ac.in</u>

## **CIIIT KAPURTHALA Training Plan**

S. No.	Course Name	Duration	Eligibility	No of Students per batch		
Product Design and Development Center						
1.	Design & Engineering	3 months (2 Hours per day)	B.Tech./B.E/M.Tech/M.E 7th Sem and 8th Sem are also eligible	20		
2.	Advanced Virtual Verification & Analysis	3 months (2 Hours per day)	B.Tech./B.E/M.Tech/M.E 7th Sem and 8th Sem are also eligible	20		
3.	Advanced Product Lifecycle Management	3 months (2 Hours per day)	B.Tech./B.E/M.Tech/M.E 7th Sem and 8th Sem are also eligible	20		
Domain Exploration Center						
4.	Advanced Automotive Engineering	3 months (2 Hours per day)	B.Tech./B.E/M.Tech/M.E 7th Sem and 8th Sem are also eligible	20		
5.	Mechatronics and Internet of Things	3 months (2 Hours per day)	B.Tech. / B. E / M. Tech / M. E 7th Sem and 8th Sem are also eligible	20		
Integrated Advance Manufacturing Center						
6.	Advanced Industrial Robotics	3 months (2 Hours per day)	B.Tech. / B. E / M. Tech / M. E 7th Sem and 8th Sem are also eligible	20		
7.	Advance Manufacturing	3 months (2 Hours per day)	B.Tech. / B. E / M. Tech / M. E 7th Sem and 8th Sem are also eligible	20		
8.	Advanced Additive Manufacturing & Reverse Engineering	3 months (2 Hours per day)	B.Tech. / B. E / M. Tech / M. E 7th Sem and 8th Sem are also eligible	20		
9	Advanced Manufacturing Execution System	3 months (2 Hours per day)	B.Tech. / B. E / M. Tech / M. E 7th Sem and 8th Sem are also eligible	20		

	Daily (Mon to Fri) Time Slot	Batches / Day
	8:00AM to 10:00AM	А
	10:00AM to 10:15AM	Tea Break
	10:15AM to 12:15AM	В
Batch per Day	12:15AM to 01:15AM	Lunch
	01:15PM to 03:15PM	С
	03:15PM to 03:30PM	Tea Break
	03:30PM to 05:30PM	D

Note: Students or External Candidate can be from any below mentioned stream: Mechanical, Electrical, Electronics, Electronics & Telecommunication, Industrial Engineering, Automotive, Aerospace, Instrumentation etc.

#### **Contact Details**

Name: Dr. Neel Kanth Grover Mobile: +91 9855 857 900 email: Dr.neelkanthgrover@ptu.ac.in

## **TATA** TECHNOLOGIES





\*Pictures shown are for illustration purpose only

## **Contact Us**

#### I.K. Gujral Punjab Technical University,

Jalandhar - Kapurthala Highway VPO - Ibban, Kapurthala-144603 Distt. Kapurthala Phone: +91-1822-282533,35,83 Email: registrar@ptu.ac.in