

Course Brochure



Visvesvaraya National Institute of Technology Nagpur
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SIEMENS
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The V. R. Jamdar Siemens Center of Excellence (VRJSCOE), established in 2020 at Visvesvaraya National Institute of Technology, Nagpur, operates with a primary focus on creating a robust technical education eco-system through its experience in industrial products and services. The CoE established in collaboration with Siemens and 3D Engineering Automation LLP is equipped with software and hardware necessary for Industry 4.0 and Digitalization. The infrastructure is spanned over 11 state of the art laboratories.

Hardware and Software Facilities at VRJSCOE

Sr. No.	Name of Laboratory	Machines and equipment at VRJSCOE	Professional Software Suits at VRJSCOE
1	Production design & validation lab	Integrated with Smart Manufacturing System	Siemens NX, FeMap, Teamcenter, Fibersim, Mastertrim, Syncrofit, Solidedge
2	Test & Optimization lab/SIEMENS PLM	SCADAS SCM Mobile, SCM-V8-E, SCM Slot frame, Triaxial PCB Prepol Mic, Impulse hammer, Miniature shaker kit, ICP Force sensor, Motor assembly, Airplane scaled model, Lasertech kit	Simcenter Test Lab, Simcenter 3D, Simcente Amesim, Academic Bundle Imagine.Lab (Heavy equipment) Virtual.Lab (Aerospace)
3	Advanced Manufacturing Lab	Integrated with Smart Manufacturing System	Technomatix (JACK,Robcad, Plant Simulation, Process Stimulation),Preactor, Opcenter APS.
4	Reverse Engineering Lab	Carl Zeiss 3D Scanner and Calibration plate (CP_P_300_1320)	Colin3D Software GOM Inspect 2019 Software, Zeiss Reverse Engineering Software
5	Internet of Things (IOT) Lab	Siemens IPC Nano Box	Siemens IIoT MindSphere Software build on Mendix Application platform.
6	Automation Lab	S7 1200 PLC with HMI (6 Kits Package), S7 1500 PLC with HMI (1 kit Package)	Totally Integrated Automation Portal SIMATIC Manager V15.1
7	Mechatronics Lab	SIMATIC S7-1200 PLC, Modular Automation Production System (MAPS 6S2)	Totally Integrated Automation Portal V16
8	Process Instrumentation Lab	SIMATIC PCS 7 Training Kits, SIMATICS Process Instrument Racks with Pressure Sensors, Temperature Sensor, Level Sensors (RADAR, Ultrasonic & Capacitive), Flow Sensors (Electro-magnetic, Coriolis Mass flow, Ultrasonic) & Electro-pneumatic Valve Positioner	Process Control System 7 V8.2
9	Smart Factory Lab	Maxturn Plus with Siemens 828D ,MaxMill Plus+ 3 Axes with Siemens 828D, Tooling package, AR-900 robots for Loading and Unloading, Automated Guided Vehicle (AGV), Automated Storage and Retrieval System (ASRS) with RFID and RFID Tracker, KUKA iiwa LBR Cobot for Assembly	Sinumerik Simulation Software, Digital Twin, KUKA Sunrise Workbench, TouchFinder, CIM
10	CNC Lab	CNC Vertical Machining Center – 5 Axes with Siemens 840D Controller	Sinumerik Simulation Software
11	Robotics Lab	Robotic Spot Welding Cell Robotic Pulse MIG Welding Cell Tool Set for Standard and Safety	RobCAD, ABB Robot Studio

Course Offered at V.R. Jamdar Siemens Center of Excellence

Various courses of different durations are offered at VRJSCOE. Aspirants can opt for online / offline/ mix mode of learning. Remote access to software as well as hardware can be given for online courses. Training courses can be taken up by students, teachers, industry professionals. Custom courses can be designed and offered to the industry / academia aspirants. The training is offered in following disciplines PLM (CAD, CAM, CAE & Digital Manufacturing), Automation & PLC, IoT, Smart Factory, CNC Programming, and robotics. CoE also offers internships for UG and PG students in these domains. To register for 100 to 600 hours courses, aspirants have to clear a qualifier test. Based on performance in this test, registration will be granted.

Sr. No.	Course Title	Duration (hrs.)	Domain	Prerequisite (Education)
1	Skill Development Certificate Courses	8 Hours 16 Hours 20 Hours 22 Hours 32 Hours 40 Hours	Product Design and Validation, Automation, Reverse Engineering, Mechatronics, Process Instrumentation, Industrial Robotics, CNC machining, Test and Optimization, Internet of things, Advanced Manufacturing and CNC controllers	ITI / Diploma / B.E. / M.Tech completed or ongoing
2	Certificate Course in CAD-CAM, Robotics	100 Hours	Essentials for NX Designers, Synchronous Modelling, Fundamentals & Parametric Design, Drafting Essentials, Tecnomatix - Process Simulate, Robot online programing for Arc welding and Spot welding application, RobotStudio	B.Tech. (Mechanical / Industrial / Production), M.Tech (Mechanical) (Completed or ongoing)
3	Certificate Course in IoT	100 Hours	Introduction to IoT Concepts & Technologies, Setting Up Your Mindsphere Development Platform, Analytics on Mindsphere Platform, One mini project and One major project	Diploma/ B.Tech./ M.Tech (Completed or ongoing)
4	Certificate Course in Automation	100 Hours	Basics of PLC, Basic of SCADA, Basics of HMI, Basics of Mechatronics, Basic of Process Instrumentation, SIMATIC PCS 7 Basics and 2 projects	Diploma/ B.Tech./ M.Tech (Completed or ongoing)
5	Certificate Course in Advanced Manufacturing	100 Hours	Tecnomatix - Process Simulate, Plant Simulate, Digital twin, Smart Factory and 2 projects	Diploma/ B.Tech./ M.Tech (Completed or ongoing)
6	PG Certificate Course in 3D CAE	300 Hours	Simenter 3D essentials and advance, Electric Vehicle modeling and simulation, Amesim for Multi-domain system modeling and validation on hardware and 2 projects	B.Tech. completed/ M.Tech (Completed or ongoing)
7	PG Certificate Course in Automation	300 Hours	Mechatronics, Automation and Process Instrumentation and 2 projects	B.Tech. completed/ M.Tech (Completed or ongoing)
8	PG Certificate Course in Smart Manufacturing	300 Hours	Smart factory, Robotics and CNC machining, IoT and 2 projects	B.Tech. completed/ M.Tech (Completed or ongoing)

Sr. No.	Course Title	Duration (hrs.)	Domain	Prerequisite (Education)
9	PG Certificate Course in CAD-CAM-CAE	300 Hours	Siemens NX, FeMap, Teamcenter, Fibersim, Mastertrim, Syncrofit, Solidedge, Tecnomatix - Process Simulate, Plant Simulate and 2 projects	B.Tech. completed/ M.Tech (Completed or ongoing)
10	Advance Certificate Course in Industry 4.0	600 Hours	Automation, Process Instrumentation, Mechatronics, Smart Factory, robotics, digital twin and IoT and 3 projects	B.Tech. completed/ M.Tech (Completed or ongoing)
11	Advance Certificate course in Digitalization	600 Hours	Product Design and Validation, Test and Optimization, Advanced Manufacturing, Digital Twin and IoT and 3 projects	B.Tech. completed/ M.Tech (Completed or ongoing)

Assessment: During courses, aspirants have to go through continuous assessment as follows. Attendance for all the sessions is mandatory.

Sr. No.	Category	Weightage
1	Weekly Test (Objective Type)	20 %
2	Project Assignment	60 %
3	Final Test(Questions from the labs included in the course), Presentation , Project Report	20 %

Certification: On successful completion of the course, a printed certificate will be awarded to the candidate having information about course, contents of course and the performance in assessments. Certificate will be signed by VNIT Nagpur, Siemens SISW and 3D Engineering Automation LLP.

Registration Fee:

Sr. No.	Type of Course	Duration	Registration Fee for VNIT Student and Faculty Member (Rs.)	Registration Fee for Outside VNIT Students/Faculty/ Industry Personnel (Rs.)	Registration Fee including 18% GST (Rs.)
1.	Skill Development Certificate Course	8 Hours	NIL	800	944
2.		16 Hours		1600	1888
3.		20 Hours		2000	2360
4.		22 Hours		2200	2596
5.		32 Hours		3200	3776
6.		40 Hours		4000	4720
7.	Certificate Course	100 Hours	1000 (NO GST)	10000	11800
8.	PG Certificate Course	300 Hours	3000 (NO GST)	30000	35400
9.	Advance Certificate Course	600 Hours	6000 (NO GST)	60000	70800

Sr. No.	Type of Course	Duration	Registration Fee for VNIT Student and Faculty Member (Rs.)	Registration Fee for Outside VNIT Students/Faculty/ Industry Personnel (Rs.)	Registration Fee including 18% GST (Rs.)
10.	Internship	4-6 weeks	1000 (NO GST)	5000	5900
11.		3 months	5000 (NO GST)	10000	11800
12.		6 months	10000 (NO GST)	20000	23600
13.	STTP / FDP/Workshop/ Summer School/Winter School	40 - 120 Hours	Registration fee will be as per approval from competent authorities. The course content will be decided by the program coordinator.		
14.	Consultancy Work	The faculty in-charge from VNIT Nagpur executing the consultancy work will implement standard consultancy procedures followed at VNIT Nagpur.			
15.	Research Project	The faculty in-charge from VNIT Nagpur executing the Research work will implement standard research procedures followed at VNIT Nagpur.			

Please fill up following form for further information and registration process.



<https://forms.gle/kVF9vXRkZ71UdNo6>

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