SMC.

HOME   PROGRAM CONTENT   ELIGIBILITY   FEE   FACULTY PROFILE   ABOUT   REGISTRATION
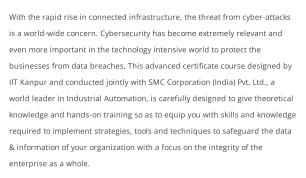
Advanced Certification Program in ICS/SCADA Cybersecurity

In Association with IIT Kanpur

REGISTER NOW

With the rapid rise in connected infrastructure, the threat from cyber-attacks is a world-wide concern. Cybersecurity has become extremely relevant and even more important in the technology intensive world to protect the businesses from data breaches. This advanced certificate course designed by IIT Kanpur and conducted jointly with SMC Corporation (India) Pvt. Ltd., a world leader in Industrial Automation, is carefully designed to give theoretical knowledge and hands-on training so as to equip you with skills and knowledge required to implement strategies, tools and techniques to safeguard the data & information of your organization with a focus on the integrity of the enterprise as a whole.

REGISTER NOW

Duration
1-Week (Monday to Friday)+ 5-Sundays

Program Fee
Rs. 2 lac + GST (Incl. industry training and introduction to Sm Factory).

Last Date of Application
30th April 2022

Course Start Date
2nd May 2022.

Program Highlights

Course offered jointly by SMC Corporation (India) Pvt. Ltd. & C3i Center, IIT Kanpur.

1-week basic training on Industrial Automation with Industry 4.0 concepts.

Hands-on training Factory Training k

06 Weeks Intensive training for Industry professionals.

Learn from the best in the field and interaction with Industry Professionals.

Capstone Project

Program Content

Industry 4.0

1. Introduction to factory Automation & basics of field devices like acutators, valves, sensors, circuit design

2. Basics of Mechatronics and PLC, its components, function & design of PLC based circuits

3. Introduction to Industry 4.0, history, concept, challenges in implementation & building blocks of Industry 4.0 and over view of core technologies

4. Introduction to SMC Smart Factory SIF-400 training kit

ICS/SCADA cybersecurity fundamentals

1. Computer security fundamentals & concept of security operation center

2. Standards & best practices

3. NIST SP 800-53 / IEC 62443 Standards

Getting your hands dirty: understanding & hunting the first target

1. HTTP TCP IP

2. SQL injection

3. Reverse shell

4. Privilege escalation

Evaluate SCADA system and security posture

1. Security audit

2. Threat vector

3. Reconnaissance & vulnerability Assessment

4. Scan with scripts

5. CVSS scoring

6. Risk assessment

7. Control subverting from the box [SCADA]

Introductory Crypto

1. Introduction to Cryptography & Data Security

The reverse gear: payload of an offensive game

1. Identification of point of injection

2. Exploit the process

3. Privilege escalation

Dissection and Analysis

1. Malware analysis using structural analysis

Fake with ease: deploy the mines

1. Confinement techniques & isolation principles

2. Web decoys

3. Collect - Filter - Analyze - Inference

4. Containers over cloud

5. ICS decoys over cloud

6. Centralized over cloud-visualization

Deep dive into dissection and analysis

1. Indicator of compromise

2. Model driven behavior analysis

3. Data driven behavior analysis

Capstone project presentation

1. Project presentation by the participants

On-line Class Schedule

First Week (Monday to Friday) & 5 Sundays

Forenoon:	11:00 AM - 01:00 PM
Afternoon:	02:00 PM - 04:00 PM
Evening:	
Assessment	06:00 PM - 07:00 PM

Wednesday

Evening:	
Queries with Programme Professor	06:00 PM - 07:00 PM

Eligibility

Graduates with any one of the following degree programs:-

BE / BTech, BCA / MCA, BSc Computer Science / BSc Information Technology.

Admission Criteria

LIMITED SEATS ON FIRST COME FIRST SERVE BASIS - Applications will be reviewed based on the eligibility and subsequent shortlisting process as laid down by the Programme Coordinator.

Who should Apply

1- Professionals working in any industry mainly roles

2-Professionals working across IoT, Product Desi System Design functions in Automotive, Aerospa Equipment Production, Energy, Metals and Mini potential sectors for deployment of Digital Manu concept

3- Professionals aiming for career transition and 4.0 and Cyber Security.

Course Fee

Participants	Non-refundable fees per participant	GST am
Individuals and up to 2 participants from the same organization	Rs. 2,00,000.00	Rs. 36,0
3 - 5 participants from the same organization	Rs. 1,85,000.00	Rs. 33,3
More than 5 participants from the same organization	Rs. 1,75,000.00	Rs. 31,5

Faculty Profile

Prof. Sandeep K. Shukla

Professor Sandeep K. Shukla is an IEEE fellow and served as an IEEE Computer Society Distinguished Visitor during 2008-2012, and an ACM Distinguished Speaker between 2007 and 2015. He was the editor-in-chief of the ACM Transactions on Embedded Systems during 2013-2020, Associate Editor of ACM Transactions on Cyber-Physical Systems and Computing Reviews. He is a subject matter expert in Cyber Security of cyber-physical systems and Blockchain Technology. Prof Shukla has received various prestigious honors and serves as a joint coordinator for the C3i Center and the National Blockchain Project at IIT Kanpur.

Mr. Rohit Negi

An IIT Kanpur alumni with over 9 years of experience specializing in industrial automation and operational technologies and cyber security of such systems. He is the Lead Engineer and Security Architect and Security Operations Lead at the C3i Center, IIT Kanpur. He is leading both offensive and defensive teams of IIT Kanpur. He is actively involved in development and incubation of indigenous solutions that improve cyber defense strategies and capabilities. He has published several international conference papers and has written several book chapters. He has been in reviewing committees of several international publications. He is into the detailed design, development, installation and commissioning of real world ICS test-beds. He has been credited with the design & development of multiple state of the art real world industrial automation test-beds for cyber security and cyber defense of critical infrastructures at IIT Kanpur. He is passionate for new ideas and technologies on top of test-beds to solve cyber security challenges in critical infrastructure.

Dr. Anand Handa

Anand is a Senior Research Engineer at C3i Center, IIT Kanpur. His focus areas include malware analysis, memory forensics, and intrusion detection systems. His role at C3i center involves working on projects having malware analysis and IDS as a significant component for IT and OT systems. He has published his work at various international conference.

Incorporated in 1995, SMC India is a 100% Subsidiary of SMC Corporation Japan, the World Leader in Pneumatic Technology.

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