CYBERSECURITY AND ETHICAL HACKING WITH APPLIED AI

FROM iHUB DIVYASAMPARK IIT ROORKEE & PwC ACADEMY

About iHUB DivyaSampark, IIT Roorkee

- **iHUB DivyaSampark, IIT Roorkee:** A Section 8, not-for-profit Technology Innovation Hub at IIT Roorkee, established under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)by the Department of Science & Technology (DST), Government of India.
- **Strong Industry & Research Ecosystem:** With active collaborations, incubators, and innovation hubs, IIT Roorkee bridges academia and industry to drive real-world impact
- **Industry-Focused Learning:** IIT Roorkee maintains strong ties with industries across its campus locations, providing students with opportunities for internships, real-world projects, and networking with business leaders.

Why Choose This Course?

- **Dual Certification:** Receive a prestigious certificate from i-HUB DivyaSampark, IIT Roorkee and PwC Academy upon successful completion, recognising your achievement.
- **Campus Immersion:** An optional 3 day campus immersion for direct interaction with industry experts and peers.
- **Future Proof Career Gateway:** Launch into a high-growth, future-proof CyberSecurity career with in-demand skills.
- **Advanced Curriculum:** Access cutting-edge cybersecurity content, engaging simulations, and practical evaluations. Focus on real-time project implementation for hands-on mastery.
- **Case Based Learning:** Engage in real-world, case-based sessions that connect theory with practical CyberSecurity challenges.
- **World Class Faculty:** Learn directly from IIT's top-tier faculty and industry experts.

What Will You Learn?

Elevate your cybersecurity prowess. Learn to conduct ethical hacks, defend against sophisticated threats, and integrate AI for unparalleled security. Drive your career forward with a robust portfolio built from hands-on labs simulating real-world cyberattacks and defenses. Build skills to secure your place as a high-impact cybersecurity professional, ready to lead with data-driven strategies and fortify digital assets.

Toolkit

Course Details

Course Duration	Time Commitment
6 Months	8-10 hours per week

Certification
iHUB DivyaSampark IIT Roorkee and PwC Academy

Condition for Certification

- PwC certification will be awarded to students based on their performance in assessments, which will be conducted in the form of case studies.
- The PwC certification does not include or guarantee any placement or internship opportunities.

Course Curriculum
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Module 1: Cybersecurity Foundations & Evolving Threat Landscape
- Introduction to Cybersecurity Fundamentals
- Networking Essentials for Security
- Understanding the Evolving Threat Landscape

Module 2: Ethical Hacking, Footprinting & Vulnerability Assessment
- Ethical Hacking Methodologies
- Footprinting and Reconnaissance Techniques
- Vulnerability Assessment Strategies

Module 3: Advanced Network Security & Incident Response
- Advanced Network Security Controls
- Security Operations Center (SOC) and SIEM
- Comprehensive Incident Response

Why Choose This Course?

Module 4: Secure Coding Practices & Application Security
- Secure Software Development Lifecycle (SSDLC) Integration
- Deep Dive into Web Application Vulnerabilities
- Secure Coding Best Practices

- **Prestigious Certification:** Receive a certificate of completion from iHUB DivyaSampark, IIT Roorkee, recognising your achievement.
- **Campus Immersion:** An optional 3 day campus immersion for direct interaction with industry experts and peers.

Module 5: AI-Driven Cybersecurity: Detection, Automation & Defense
- Leveraging AI/ML for Cybersecurity
- AI for Security Automation and Orchestration
- Adversarial AI and Defense

- **Future Proof Career Gateway:** Step into the rapidly evolving AI landscape by mastering Agentic AI, LangChain, and multi-agent systems with hands-on expertise guided by top IIM and IIT faculty.
- **Advanced Curriculum:** Access cutting-edge business analysis content, engaging simulations, and practical evaluations. Focus on real-time project

Module 6: Project Pathway by PwC Academy

- **Practical-Based Learning:** Work on hands-on projects and team-world Af PwC Academy: students can choose either of these projects
  a. Cybersecurity Foundations (Advanced Refresh)
  b. Compliance Gap Analysis Report

- **Project-Based Learning:** Work on hands-on projects and real-world scenarios, applying LangChain and multi-agent frameworks to solve complex, industry-relevant problems.
- **World Class Faculty:** Learn directly from top-tier faculty and industry experts

Due to the evolving nature of the industry expectations and partner institute feedback, some syllabus aspects may change. Any updates will be communicated during the Inauguration Session(s) or at the start of the relevant module

Our Instructors

Dr. Tapan K. Gandhi
Professor, Electrical Engineering, IIT Delhi

Dr. Tapan K. Gandhi is a Professor of Electrical Engineering and Cadence Chair Professor of AI and Automation at IIT Delhi, also holding joint and adjunct faculty positions at AI schools in IIT Delhi and IIT Jodhpur. He earned his Ph.D. in Biomedical Engineering from IIT Delhi (Project Prakash, MIT, USA), followed by postdoctoral research at MIT. An award-winning INSPIRE Faculty, Dr. Gandhi's pioneering work in computational neuroscience, AI, and machine learning has resulted in over 250 publications in top journals such as Science and Nature, along with numerous global accolades.

Dr. Nikhil Tripathi
Assistant Professor, CSE@IIT (ISM) Dhanbad

Dr. Nikhil Tripathi is an accomplished academic in the field of Computer Science and Engineering, currently serving as an Assistant Professor. He holds a Ph.D. from the Indian Institute of Technology Indore, India. Prior to his academic role, he contributed his expertise as a cybersecurity researcher at the Fraunhofer Institute for Secure Information Technology (SIT), Germany. His research interests are centered on Network Security, System Security, Computer Networks, and Intelligent Transportation Systems, with a focus on vulnerability assessment of application layer protocols. He has published research papers in various journals and conferences.

Our Instructors

Animesh Shaw

Senior Security Engineer, Omnissa

Animesh Shaw is a seasoned cybersecurity professional with over 10 years of expertise in Application Security, Cloud Security, and DevSecOps. He holds an MBA from IIM Kozhikode and has empowered global tech leaders like Omnissa (VMware) and Atlassian to build secure and compliant systems. As a specialist in shifting security left, he excels at integrating security controls into development pipelines to significantly reduce vulnerabilities. His key certifications include ISO 27001 Lead Auditor and CISA (Exam Qualified).

Karthick Arumugam

Cybersecurity Engineer, Accenture

Karthick Arumugam is an accomplished cybersecurity professional with over six years of experience in the industry. He has held diverse roles, including Cybersecurity Engineer at Accenture, and has a strong background in training for certifications like CISSP, CCSP, CISM, CISA, and CEH. His professional expertise spans various domains, including risk and compliance management, security operations center (SOC) analysis, and identity and access management (IAM). He also has experience in SAP administration and holds certifications in CEHv10, CC, and CPISI.

Admission Process

Submit Application
Complete application form to showcase your motivation and goals

Complete Counselling
Only shortlisted candidates go through the counselling process.

Start Learning
Learn from India's top educators and stand out from the crowd.

Fees Structure

Application Fee (Non-Refundable)	₹100

	Option 1	Option 2
	Upfront	**EMI** (Through Our NBFC Partners)
Secure Seat Fee (Non-Refundable)	₹4,000	₹4,000
Programme Fee (Non-Refundable)	₹56,000	₹7,156 x 9 months
Total	₹60,000*	₹68,404*

*GST at 18% extra, as applicable