



Strategy and Synergy for Security

SETS Certificate course on Advanced Cyber Security (SCACS)

About SETS

Society for Electronic Transactions and Security (SETS) was set-up as a premier Research Institution to work in the area of Information Security under the Office of the Principal Scientific Adviser to Government of India. It has established an Advanced Facility in Information Security and Cryptology working in the research areas of Cryptology, Hardware Security, and Cyber Security.

Course Objective

Developing quality manpower in various domains relating to cybersecurity is vital from the national perspective. Keeping in view the growing needs of cyber security professionals, SETS is launching a **Four-week** certification programme titled “**SETS Certificate on Advanced Cyber Security (SCACS)**” to develop skill sets among Working Professionals, Teaching Faculty, Researchers, engineering graduates/ post graduates in sciences and engineering.

The course is designed to provide in-depth exposure to Cyber Security technologies and tools and to train the candidates to secure network and systems from the ever-widening cyber-attack surface. It provides an insight on challenges faced in securing real world network systems and defence mechanisms. The course prepares one to get oriented towards building a career in Cyber Security domain and it would be highly beneficial to the unemployed graduates with prerequisites to gain employable skills development. Also, candidates get acquainted with the use of latest tools to prevent attacks, identify anomalies and safeguard networks with various techniques and solutions.

USP of the course

The **SCACS** certification ensures mastering of the latest cyber security concepts and acquire good knowledge to detect and prevent security breaches.

- Exposure to recent technology trends in the domain of Cyber Security
- Hands-on experience in Cyber Security tools and get trained to focus on using top notch open source security software
- Experienced Faculty with rich R&D background
- State-of-the-art infrastructure and labs
- Exposure to latest technologies such as Blockchain and AI with its applicability to security domains
- Prepares one to get oriented towards building a career in Cyber Security domain
- Good opportunity for participants of SCACS to be industry ready and improve the employability skills of the hour
- Two weeks project to explore and enhance the knowledge gained on various topics taught during the course

Syllabus

Module 1: Cyber Security Essentials

- Networking Concepts
- Cryptography-concepts and their application
- Linux file systems and scripting
- Secure C Programming
- Python for Security
- Hardening Linux Operating System
- Cyber Security Standards & Best Practices

Module 2: Cryptography and Public Key Infrastructure (PKI)

- Symmetric Key Cryptography
- Public Key Cryptography
- Digital Certificates
- Secure protocol used in WWW

Module 3: Network Security

- Networking protocols and Packet Analysis
- Overview of Perimeter Security and its implementation
 - ✓ Firewalls
 - ✓ Intrusion Detection and Prevention Systems (IDPS)
 - ✓ Virtual Private Network (VPN)
- Security Information and Event Management (SIEM)
- Web Application Security
- Mobile Security
- IoT security

Module 4: Ethical Hacking

- Information Gathering
- Enumeration & Scanning
- Exploitation
- Post Exploitation
- Capture The Flag (CTF) - Event

Module 5: Advanced Topics in Cyber Security

- Blockchain concepts, Exposure to Multichain & Hyperledger Platforms
- Artificial Intelligence / Machine Learning / Deep Learning for Cyber Security
- Hardware Security
- Cyber Security in the era of Quantum Computing

Module 6: Project work

- Project work on selected topics during the last two weeks of the course

Eligibility

- Candidates who completed their Engineering (BE/ B.Tech or Higher Qualification) in the streams of ECE/ CSE/ EEE/ EIE/ IT/ and MCA, M.Sc (Electronics, Computer science, Information Science, IT)
- Diploma / Science graduates with exposure to programming and cyber security.
- Unemployed graduates looking to improve their employability skills.
- Working professionals who are keen on developing/ enhancing their cyber security skills.

Pre-Requisites

The candidates should have basic knowledge of Electronics, Networking, Operating Systems, Programming and Cyber Security concepts.

Selection of Candidates

Selection of candidates will be based on their academic records and the assessment made by the Academic Committee of SETS.

Assessment

Continuous evaluation in the form of objective & subjective type exams and lab tests will be conducted. Certification is awarded for the candidates who secure minimum of 50% marks in each module.

Course Duration

Four weeks full-time course (Monday-Friday from 9.30AM to 5.00 PM) with equal emphasis on theory and practical.

How to Apply

Eligible candidates are required to apply online through prescribed application format available on SETS website (www.setsindia.in/SCACS).

Course Fee

Selected candidates have to pay Rs. 25,000 + 4500 (GST) = Rs. 29500/- through Demand Draft/ NEFT in favour of SETS payable at Chennai on or before the last date for payment of course fee.

NEFT Details:

A/C Name : SETS-NET, Chennai
SB A/C No : 6312902297
Bank Name : Indian Bank
Branch : LB Road
IFSC : IDIB000L006
GST IN : 33AACTS6338P1ZY

Important Dates

Opening Date of Online Application	24.08.2019
Last Date for applying online	27.09.2019
Announcement of selected candidates	04.10.2019
Last Date for Payment of course fee	25.10.2019
Course Commencement Date	11.11.2019
Course completion date	06.12.2019

Course Venue

Society for Electronic Transactions and Security (SETS)

(Under the O/o Principal Scientific Adviser to the Government of India)
MGR Knowledge City, CIT campus
Taramani, Chennai-600113
(Near Ramanujan IT city Exit Gate No.3)

Accommodation Facilities

Limited on-campus accommodation on payment will be available on first come first serve basis

Contact Details for Enquiries

SCACS Coordinator

Society for Electronic Transactions and Security (SETS)

(Under the O/o Principal Scientific Adviser to the Government of India)

MGR Knowledge City, CIT campus

Taramani, Chennai - 600113

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