

**Savitribai Phule Pune University (Formerly University of Pune)**



**Board of Studies,  
Department of Technology**

**Electronics & Electrical (EE) Technology**

**Curriculum Structure for Professional Certification Programme in Cyber Security Specialist**

**Course Name: Professional Certification Programme in Cyber Security Specialist**

**Compulsory Modules – 4**

**Duration: 90 Hours (2 Months)**

**Course Intake: - 30**

**Course Mode: - Class Room (Hybrid)**

**Eligibility Criteria: Graduate from Any Discipline.**

**Students in penultimate year of  
graduation or pursuing graduation  
in any field can also apply.**

**Working professionals & law  
enforcement personnel.**

<b>Course Contents-</b>					
<b>Sr. No.</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>Credits</b>	<b>Teaching Scheme (Theory)</b>	<b>Teaching Scheme (Practical)</b>
1	CPCSS1	Ethical Hacking	4	√	√
2	CPCSS2	Vulnerability Assessment	4	√	√
3	CPCSS3	Penetration Testing	4	√	√
4	CPCSS4	Final Independent Research Project (Dissertation Submission)	6		
		<b>Total Course Credits</b>	<b>18</b>		

**TAKE AWAY'S AFTER COMPLETION OF (C S S) COURSE**

Become an industry ready Expert with Professional Certification Programs in Cybersecurity; and transform your career in 2 months. Course provides a high-engagement learning experience with real-world applications and is designed for individuals who want to start a new, more fulfilling challenging distinct career.

## **CPCSS1 Ethical Hacking**

### **Learning Outcomes**

Students will learn more about ethical hacking understand in detail about concepts, effects, distinctions & limitations in ethical hacking. Execute & master various techniques necessary to prevent hacking & learn about implementing security measures in real world environment.

### **Syllabus**

**Ethical Hacking Fundamentals, Networking Fundamentals, Security Foundation, Internet Security, Foot-printing & Reconnaissance, Scanning Networks, Enumeration, System Hacking, Malware Threats, Sniffing, Social Engineering, Denial of Service, Session Hijacking, Evading IDS, Firewalls & Honeypots, Hacking Web Server, Hacking Web Applications,SQL Injection, Hacking Wireless Networks, Hacking Mobile Platforms,IoT & OT Hacking, Cloud Computing, Cryptography, Hacking CCTV.**

### **Reference:**

1. Ethical Hacking and Penetration Testing Guide by Rafay Baloch (Author)
2. Hacking: The Art of Exploitation, 2nd Edition by Jon Erickson (Author)
3. Certified Ethical Hacker (CEH) Foundation Guide by Sagar Ajay Rahalkar (Author)
4. CEH v11 Certified Ethical Hacker Study Guide by Ric Messier (Author)

## **CPCSS2 Vulnerability Assessment**

### **Learning Outcomes**

Students will learn to assess & analyze flaws in the system to vulnerabilities. They will learn how to build a safe secure system & gain knowledge of all the vulnerabilities assessment & reconnaissance to protect infrastructure & digital assets of organization

### **Syllabus**

**Vulnerability Analysis, Attack & Defense, Art of Googling, Steganography & PGP, Security Architecture & Design, Scanners Configuration & Reports, Analysing Vulnerabilities & Exploits, Risk Assessment in Real World Scenario, Calculation of Risk & Vulnerability Management.**

### **Reference:**

1. Vulnerability Assessment with Nessus by Padmavathi Ganapathi (Author)
2. DETECTION OF INTRUSIONS AND MALWARE, AND VULNERABILITY ASSESSMENT by Diego Zamboni (Editor)
3. Managing A Network Vulnerability Assessment by Thomas R. Peltier (Author), Justin Peltier (Author), John A. Blackley (Author)
4. CEH v12 Certified Ethical Hacker Study Guide with 750 Practice Test Questions by Ric Messier (Author)

## **CPCSS3 Penetration Testing**

### **Learning Outcomes**

Students will master the skills to defend against attack & vulnerability to evaluate its security. Conduct penetration testing on web applications to secure system & networks. Work in the best interest of any organization by preventing any type of attack securing companies data & assets.

## **Syllabus**

**Penetration Testing & Testing, Kali Linux, Reconnaissance & Scanning Networks,  
System Penetration & Gaining Access, Web Application Penetration, Exploitation &  
Anonymity.**

### **Reference:**

1. Penetration Testing Essentials by Sean-Philip Oriyano (Author)
2. Metasploit Penetration Testing Cookbook by Abhinav Singh (Author)
3. Mastering Kali Linux for Web Penetration Testing by Michael McPhee Mike McPhee (Author)
4. Advanced Penetration Testing: Hacking the World's Most Secure Networks by Wil Allsopp (Author)
5. Ethical Hacker's Penetration Testing Guide: Vulnerability Assessment and Attack Simulation on Web, Mobile, Network Services and Wireless Networks by Samir Kumar Rakshit (Author)
6. Penetration Testing: A Hands-On Introduction to Hacking by Georgia Weidman (Author)