**Ethical Hacking**

**Month 1: Introduction to Ethical Hacking and Reconnaissance**

Week 1: Introduction to Ethical Hacking

* Overview of ethical hacking
* Role and responsibilities of an ethical hacker
* Legal and ethical considerations

Week 2-3: Networking Fundamentals

* Basics of networking and the OSI model
* TCP/IP fundamentals
* Understanding protocols (HTTP, DNS, FTP, etc.)

Week 4-5: Information Gathering and Footprinting

* Passive and active information gathering techniques
* Footprinting and reconnaissance
* Tools: WHOIS, DNS lookup, Google hacking

Week 6: Scanning and Enumeration

* Network scanning techniques
* Enumerating systems and services
* Tools: Nmap, Nessus, Wireshark

**Month 2: Vulnerability Assessment, Exploitation, and Defense**

Week 1-2: Vulnerability Assessment

* Conducting vulnerability assessments
* Identifying and prioritizing vulnerabilities
* Tools: OpenVAS, Nexpose, Qualys

Week 3-4: Exploitation and Post-Exploitation

* Exploiting vulnerabilities responsibly
* Gaining access and maintaining persistence
* Post-exploitation techniques
* Tools: Metasploit, Burp Suite

Week 5-6: Defensive Strategies and Reporting

* Implementing defensive strategies
* Countermeasures and remediation
* Writing comprehensive security reports
* Ethics in reporting vulnerabilities