

Following are Information and Cyber Security NPTEL Courses available on NPTEL Repository

- <https://nptel.ac.in/courses/106/106/106106199/>
- <https://nptel.ac.in/courses/106/106/106106178/>
- <https://nptel.ac.in/courses/106/106/106106157/>
- <https://nptel.ac.in/courses/106/106/106106141/>
- <https://nptel.ac.in/courses/106/106/106106129/>
- <https://nptel.ac.in/courses/106/105/106105162/>
- <https://nptel.ac.in/courses/106/107/106107155/>
- <https://nptel.ac.in/courses/106/105/106105031/>

Online Book:

- https://www.cybok.org/media/downloads/cybok_version_1.0.pdf
- https://heimdalsecurity.com/pdf/cyber_security_for_beginners_ebook.pdf
- [https://mrcet.com/pdf/Lab%20Manuals/IT/CYBER%20SECURITY%20\(R18A0521\).pdf](https://mrcet.com/pdf/Lab%20Manuals/IT/CYBER%20SECURITY%20(R18A0521).pdf)
- https://www.nisc.go.jp/security-site/campaign/files/aj-sec/handbook-all_eng.pdf
- <https://uou.ac.in/sites/default/files/slm/Introduction-cyber-security.pdf>
- <https://www.programming-book.com/cyber-security-policy-guidebook-book/>
- <https://www.programming-book.com/cyber-warfare-second-edition-techniques-tactics-and-tools-for-security-practitioners-book/> set of 12 books

<p>Unit I Security Fundamentals An Overview of Information Security: The Basic Components, Threats, Policy and Mechanism, Assumptions and Trust, Assurance, Operational Issues, Human Issues, Security nomenclature. Access Control Matrix, Security Policies: Confidentiality, Integrity, Availability Policies and Hybrid Policies, OS Security</p>	<ul style="list-style-type: none"> ● https://youtu.be/otN3V0beVRo ● https://youtu.be/1-F9WsYJZ_s ● https://youtu.be/Q9THqiaJ2TE ● https://youtu.be/eK5UBbsJLSo ● https://youtu.be/NGgREn1M11c ● https://youtu.be/EHh7g-Ec0V4 ● https://youtu.be/kTBzubyhrD8 ● https://youtu.be/u2MZtAcFLaw ● https://youtu.be/mcNQ7zMJGzs ● https://youtu.be/sUMixPX9Szc ● https://www.sciencedirect.com/topics/computer-science/access-control-matrix ● https://smartebytechnology.com/confidentiality-integrity-availability-basics-of-information-security/ ● https://youtu.be/5Cm_Jln9iog
<p>Unit II Modular Arithmetic and Cryptography Basics Modular Arithmetic : Modular Arithmetic Notations, Modular Arithmetic Operations, Euclid's method of finding GCD, The extended Euclid's algorithm. Cryptography : Classical encryption techniques, Block and Chain ciphers, Data Encryption Standard, Advanced Encryption Standard, RC5</p>	<ul style="list-style-type: none"> ● https://youtu.be/eTIT29wI6JE ● https://youtu.be/Eg6CTCu8iio ● https://youtu.be/M42uDLGRSpI ● https://youtu.be/O3JnMMugG44 ● https://youtu.be/wvGicFDnIHE ● https://youtu.be/VWOUh4w_zVI ● https://youtu.be/UJiLgUtddIM ● https://youtu.be/X8whYEWoDSI ● https://youtu.be/fueyWs92cvs ● https://youtu.be/8B1rN1rnTIU
<p>Unit III Advanced Cryptography Chinese Remainder Theorem and its implication in Cryptography,</p>	<ul style="list-style-type: none"> ● https://www.cse.iitb.ac.in/~mp/teach/advcrypto/f17/ ● http://www.cs.columbia.edu/~tal/6261/ ● https://youtu.be/ml3A42AVfwE

<p>Diffie-Hellman key exchange algorithm, RSA algorithm, Elgamal Arithmetic, Elliptic Curve Cryptography, Message Digest and Cryptographic Hash Functions, MD5 and SHA-1, Digital Signatures and Authentication</p>	<ul style="list-style-type: none"> ● https://youtu.be/tsQ5Bf8KA6E ● https://youtu.be/YsR2wD-GIHM ● https://youtu.be/ru7mWZJIRQg ● https://youtu.be/Fyr9rUWhhTM ● https://youtu.be/9f4q2pISHFY ● https://www.hypr.com/diffie-hellman-algorithm/ ● https://youtu.be/zLKT4-uRGw4 ● https://youtu.be/J_EhWSB1wgc ● https://youtu.be/cOpYHlqis3o ● https://youtu.be/85uwtuIW5QA ● https://youtu.be/L7cKzQpWnk8 ● https://youtu.be/2kfAga111ls ● https://youtu.be/GNC3DZCRdA8 ● https://youtu.be/ONGPhAPKYv4 ● https://youtu.be/-m8WNo7-ebc ● https://youtu.be/OMxpPGHzCEc ● https://youtu.be/9XZ45SanJnk ● https://youtu.be/h7n1QEY5H_4 ● https://youtu.be/G_qtQgRmiWk ● https://youtu.be/4FHJJxLcX6I ● https://youtu.be/yUel4nqvNs8
<p>Unit IV Issues in Security Management and Cyber Laws Overview, Risk identification, Risk Assessment, Risk Control Strategies, Quantitative vs. Qualitative Risk Control Practices. Risk Management. Laws and Ethics in Information Security, Codes of Ethics, Protecting programs and data Cybercrime and Information security, Classification of Cybercrimes, The legal perspectives- Indian perspective, Global perspective, Categories of Cybercrime, Types of Attacks, a Social Engineering, Cyber stalking, Cloud Computing and Cybercrime.</p>	<ul style="list-style-type: none"> ● https://youtu.be/cMOWZkYVleg ● https://youtu.be/X31YZYtCBg ● https://youtu.be/X31YZYtCBg ● https://youtu.be/ruUokB12usc ● https://youtu.be/sy5rZiJVN5I ● https://youtu.be/1nDu4QS7BYk ● https://youtu.be/wskoRnzwUPs ● https://youtu.be/s00qrsMPBOc ● https://youtu.be/599h8dWEFpY ● https://youtu.be/GOpYmwHMGFw ● https://youtu.be/MuUTj-PyYxo ● https://youtu.be/szHSgMWYSiQ ● https://youtu.be/yip_En8fkjY ● https://youtu.be/ixofVs3BqxU ● https://youtu.be/Czm3clZqDt0
<p>Unit V Key Management and Secure Communication Public Key Infrastructure(PKI), X.509 Certificate, Needham Schroeder algorithm and Kerberos. IP Security: IPv6 and IPSec, Web Security: SSL, HTTPS, Mail Security: PGP, S/MIME . Firewall : Different Types and Functionalities</p>	<ul style="list-style-type: none"> ● https://youtu.be/85uwtuIW5QA ● https://youtu.be/29ypqi3zOI4 ● https://youtu.be/SqPIg5AXW9c ● https://youtu.be/R3rqrXIfOsQ ● https://youtu.be/QmOs3blNmGA ● https://youtu.be/sYSO13LRfYA ● https://youtu.be/X1TUCeRVv5k ● https://youtu.be/lqMpti99Eg8 ● https://youtu.be/i3uMwpjpc8 ● https://youtu.be/xwtZBLxbjaU ● https://youtu.be/pPpVD9dbldg ● https://youtu.be/QLuJYzcWbmM ● https://youtu.be/3xCRJ79YYVQ ● https://youtu.be/CfQ2INQHkHU ● https://youtu.be/SXErMCgrTOo ● https://youtu.be/hExRDVZHhig ● https://youtu.be/8naOLxGLitY ● https://youtu.be/BPnEqiOzMaE ● https://youtu.be/f9qWokekdsA

	<ul style="list-style-type: none"> ● https://youtu.be/Ta8r_I7-wrw ● https://youtu.be/l2aF0ykovRY ● https://youtu.be/Yi2HfNySPUk ● https://youtu.be/Xi-oisdGr_g ● https://youtu.be/o_vyfo3Hw0Y ● https://youtu.be/uGaERP4Npys
<p>Unit VI Attacks, Malicious Logic and Countermeasures Phishing, Password Cracking, Key-loggers and Spywares, Types of Virus, Worms, DoS and DDoS, SQL injection, Buffer Overflow, Spyware, Adware and Ransomware. Antivirus and other security measures Intrusion Detection System : IDS fundamentals, Different types of IDS. Intrusion Prevention</p>	<ul style="list-style-type: none"> ● https://youtu.be/YVbvil6LjN0 ● https://youtu.be/5nf-Q8_QyHs ● https://youtu.be/JCE7TMhufT8 ● https://youtu.be/-1tlctPCLZU ● https://youtu.be/dRyYBF3xlzE ● https://youtu.be/fHsJAei2ocM ● https://youtu.be/z4_oqTZlqCo ● https://youtu.be/3q7y7sWRiRM ● https://youtu.be/7U-RbOKanYs ● https://youtu.be/FGFAFDj1U9E ● https://youtu.be/ngA4LSiXeVI ● https://youtu.be/AQrsbGz_ki8 ● https://youtu.be/ysohpf4JT4Q ● https://youtu.be/Wx8sMDXccG8 ● https://youtu.be/quOQhLn_U0Y ● https://youtu.be/e9N-48-jETI ● https://youtu.be/iUbfNtfwtE0 ● https://youtu.be/Wx8sMDXccG8 ● https://youtu.be/LkzWHgX_GDU ● https://youtu.be/l0ODBZkNpGI ● https://youtu.be/aOy9SQxnHKA ● https://youtu.be/6z968uxDWIw ● https://youtu.be/PTJ6UZz1pPQ ● https://youtu.be/zmjtoO5I500 ● https://youtu.be/NbaodJVk2ZU ● https://youtu.be/wOVyNwyWAK0 ● https://youtu.be/o5QzGq6IGBk ● https://youtu.be/HlInia0_M8Cc ● https://youtu.be/3Axp3VDnf0I ● https://youtu.be/X1P0AXh90Xs ● https://youtu.be/lUqy2-Ez1yY ● https://youtu.be/1S0aBV-Waeo ● https://youtu.be/lvi5KVnU0FM ● https://youtu.be/n8mbzU0X2nQ ● https://youtu.be/CBwITr5LPD0 ● https://youtu.be/quOQhLn_U0Y ● https://youtu.be/R9XG_IRkNX8 ● https://youtu.be/NDcEOW8r0xc ● https://youtu.be/SbqC2k4vbXY ● https://youtu.be/Dk-ZqQ-bfy4 ● https://youtu.be/UdP39Ke9cTs ● https://youtu.be/R1mF7Mxfynk ● https://youtu.be/zTZ1BblZWTo ● https://youtu.be/2MEUV398RuA ● https://youtu.be/pkiJ0vk7_AA