

Cyber Sphere and Security: Global Concerns

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Cyber Sphere and Security: Global Concerns	2	1	0	1	12th Pass	NIL

Learning Objectives

The Learning Objective of this course is as follows:

- To spread awareness and enlightening visions of the indiscriminate and diversified students to ensure their immediate and basic cyber safety and prevent loss due to sheer ignorance.

Learning outcomes

The Learning Outcomes of this course are as follows:

- After studying this course, students will be able to apprehend key terms of cyber domain and identify cyber threats.
- After studying this course, students will be able to understand cyber law concepts, intellectual property and Digital Rights Management.
- After studying this course, students will be able to diagnose and examine basic security loopholes, anomalous behavior in internet.
- After studying this course, students will be able to understand principles of web security.
- After studying this course, students will be able to secure and protect personal data with safe Internet usage.
- After studying this course, students will be able to assimilate approaches for incident analysis and response, risk management and best cyber security practices.

SYLLABUS

Unit I: Introducing Cyber 'Sphere' and 'Security' (3 Weeks)

- Cyber Terminologies: Cyber Sphere, Cyber Security, Cyber Crime, Cyber Attack, Cyber Espionage, Cyber Warfare, Cybernetics
- Cyber Security and Paradigms
- Cyber Security: Objectives and Roles

Unit II: Cyber Crime: Insight, Mitigation and Control (3 Weeks)

- Cyber Crime and Cyber Activism: An Overview
- Typologies of Cyber Crimes: Generic Cyber Crimes, Advanced Persistent Threats (APTs), Cyber Threat in Mobile Technology, Cloud Computing and BYOD
- Cyber Crime Identification, Risk Assessment, Management and Control

Unit III: Cyber Policies and Cyber Law (3 Weeks)

- Cyber Policies and Cyber Law: Dimensions, Determinants, Dilemmas
- Existing Cyber Policies and Must Follow Up Actions
- Grey Areas in Cyber Laws

Unit IV: Security Tools and Usage (3 Weeks)

- Knowledge and Identification of Security Tools
- Cyber Security Aspects
- Cyber Security Toolkits

Unit V: Cyber Security: Case Studies (3 Weeks)

- Government Institutions
- Banks and Financial Institutions, Commercial Websites, Point of Sale issues and Online Payment
- Real Time Cases

Essential Readings:

- Bertrand Venard (2019). 'Cyber Security: The New Art of War', Lecture delivered at Developing Countries Research Centre [dcrc], University of Delhi, 1 April 2019.
- Bertrand Venard (2019). 'The Determinants of Cybersecurity Behaviours: Qualitative Research Among French Students' in C. Onwubiko, X. Bellekens, A. Erola, M. Jaatun and C. Nogueira (eds.), Proceedings of the Cyber Science 2019: Cyber Situational Awareness for Predictive Insight and Deep Learning. UK: University of Oxford.
- Bertrand Venard (2019). Cybersecurity Among students. UK: Wolfson College, University of Oxford.
- Bertrand Venard (2019). Cyber Aggressions in the XXIst Century: Equation of a Crisis. UK: University of Oxford.
- Cristopher Hadnagy (2018). Social Engineering: The Science of Human Hacking, 2nd Edition. New York: Wiley.

- John Erickson (2008). The Art of Exploitation (2nd Edition). San Francisco: No Starch Press.
- Kevin Mitnick and Robert Vamosi (2017). The Art of Invincibility. Boston: Little, Brown and Company.
- Kevin Mitnick (2012). The Ghost in the Wires: My Adventures as the World's Most Wanted Hacker. New York: Back Bay Books.
- Yogesh Atal and Sunil K Choudhary (2013). Combating Corruption: The Indian Case. Hyderabad and New Delhi: Orient Blackswan.

Examination scheme and mode:

Total Marks: 100

Internal Assessment: 25 marks

Practical Exam (Internal): 25 marks

End Semester University Exam: 50 marks

The Internal Assessment for the course may include Class participation, Assignments, Class tests, Projects, Field Work, Presentations, amongst others as decided by the faculty.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

