

## 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		
<b>Cyber Sphere and Security: Global Concerns</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>12<sup>th</sup> Pass</b>	<b>NIL</b>

#### 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.**

