



CYBER SECURITY AND PRIVACY

PROF. SAJI K MATHEW

Department of Management Studies
IIT Madras

PRE-REQUISITES : A core course on Management Information Systems desirable (not mandatory)

INDUSTRY SUPPORT : IT services industry, AI/Block chain start ups, Industry 4.0, autonomous vehicles industry

COURSE OUTLINE :

This course introduces to management students the concepts, technologies, practices and challenges associated with cybersecurity as applied in organizations. Protection as well as disclosure of information pose unique challenges and also allude to economic and technological implications. Breach of information privacy has been reported as having serious consequences to all the stakeholders involved from the origin to end use of data. Furthermore, cyber security has often been analysed independent of information privacy, which thus lacks a wholesome picture of investments, benefits and stakeholder concerns. The course takes a broad view of cyber security along with information privacy by analysing relevant organizational, human, legal and policy issues.

Through this course, students will explore cyber security along with information privacy with a managerial focus. Students are expected to develop a wholesome understanding about cyber security and privacy risks to businesses covering governance, compliance and risk mitigation and closely study certain business domains.

ABOUT INSTRUCTOR :

Prof.Saji K Mathew is currently a Professor at the Department of Management Studies, Indian Institute of Technology Madras, India. As a Fulbright Scholar, he did his post-doctoral research on offshore IT outsourcing at the Goizueta Business School of Emory University, Atlanta (USA). His current research focuses on behavioral cyber security, information privacy, misinformation and digital nudging. He has published research in leading IS journals while also making editorial contributions to some of them. He is a founding member of the Association for Information Systems India Chapter (INAIS) and presently serves as its Vice President.

COURSE PLAN :

Week 1 : Introduction - Introduction to cyber security, Confidentiality, integrity, and availability.

Week 2 : Foundations - Fundamental concepts, CIA, CIA triangle, data breach at target.

Week 3 : Security management, Governance, risk, and compliance (GRC)- GRC framework, security standards.

Week 4 : Contingency planning - Incidence response, Disaster Recovery, BCP.

Week 5 : Cyber security policy - ESSP, ISSP, SYSSP.

Week 6 : Risk Management - Cyber Risk Identification, Assessment, and Control.

Week 7 : Cyber security: Industry perspective - Defense Technologies, Attack, Exploits.

Week 8 : Cyber security technologies - Access control, Encryption, Standards.

Week 9 : Foundations of privacy - Information privacy, Measurement, Theories.

Week 10 : Privacy regulation - Privacy, Anonymity, Regulation, Data Breach.

Week 11 : Privacy regulation in Europe, Privacy: The Indian Way - Data Protection, GDPR, DPDP, Aadhar.

Week 12 : Information privacy: Economics and strategy, Economic value of privacy, privacy valuation, WTA and WTC, Business strategy and privacy, espionage, Privacy vs safety.