GUJARAT TECHNOLOGICAL UNIVERSITY

CYBER SECURITY (59)
CYBER SECURITY: ADMINISTRATION AND MANAGEMENT
SUBJECT CODE: 715906
SEMESTER: I

Type of course: Master of Engineering (Cyber Security)

Prerequisite: Concept of networking and cryptography.

Rationale: The aim of this course is to analyze the security requirement of the enterprise infrastructure and Systems and to define and implement the suitable security policy in order to protect the IT resources.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks						Total Marks
				Theory Marks		Practical Marks				
L	T	P	C	ESE (E)	PA (M)	ESE (V)		PA (I)		
						ESE	OEP	PA	RP	
4	0	2	5	70	30	20	10	10	10	150

Content:

Sr. No	Course Content	No of Hrs	% Weight
1	The Cyber security Challenge: Defining and meeting the cyber security challenges	5	
2	New Enterprise Cyber security Architecture: Enterprise cyber security - Architecture, Implementation, and Operations. Cyber security and the cloud, Enterprise security for mobile	12	
3	The Art of cyber defense: Building an Effective Defense, Responding to Incidents, Managing a Cyber security Crisis	8	
4	Enterprise Cyber defense Assessment: Assessing Enterprise Cyber security, Measuring a Cyber security Program, Mapping Against Cyber security Frameworks	6	
5	Enterprise Cyber security Program: Managing an Enterprise Cyber security Program, Advances in cyber security	5	
6	Common Cyber attacks, Cyber security Frameworks, Enterprise Cyber security Capabilities,	6	
7	Sample Cyber security Policy, Cyber security Operational Processes	6	

Reference Books:

1. **Donaldson**, S., **Siegel**, S., **Williams**, C.K., **Aslam**, A., Enterprise Cybersecurity -How to Build a Successful Cyberdefense Program Against Advanced Threats, A-press
2. Jake Kouns, Daniel Minoli, Information Technology Risk Management in Enterprise Environments: A Review of Industry Practices and a Practical Guide to Risk Management Teams, John Wiley & Sons, 2011
3. Dave Tyson, Security Convergence: Managing Enterprise Security Risk, Butterworth-Heinemann, 2011
4. Malcolm Harkins, Managing Risk and Information Security: Protect to Enable, Apress, 2012
5. Greg Witte, Melanie Cook, Matt Kerr, Shane Shaffer, Security Automation Essentials: Streamlined Enterprise Security Management & Monitoring with SCAP, McGraw Hill Professional, 2012

Course Outcome:

- To understand the cyber security challenges for enterprise environment
- To analyse the security needs of enterprise environment
- To define and implement cyber security defense for enterprise environment To define enterprise security architecture and policy.

List of Experiments: based on the content.

Major Equipments:

- Security labs having dedicated network and required software security tools.

List of Open Source Software/learning website:

- Security assessment, monitoring and defense tools

Review Presentation (RP): The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website.