TEACHING PLAN **FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI** **UNIVERSITI TEKNIKAL MALAYSIA MELAKA**		
COMPUTER SECURITY		
DITS 2413	**SEMESTER 1**	**SESSION 2022/2023**

DITS 2413 COMPUTER SECURITY (3, 2, 2)
TYPE OF COURSE: K
EDITION: 9
UPDATED: 21/09/2022

1.0 COURSE OUTCOMES

At the end of this course, students will be able to:

1) Discover the fundamental knowledge and study in a field of security in computer systems. (C3)
2) Display workstation configuration to monitor the system's performance. (P3)
3) Display management skill of managing hard disks, data storage and device drivers for disaster recovery with device drivers signing and driver restoring. (P3, CTPS3, CS2)

SYNOPSIS

This subject provides students with the knowledge and skills which are mandatory to maintain Workstation resources, monitor Workstation performance, and safeguard data on a computer running on preferable operating systems.

3.0 PRE-REQUISITE

DITS 2213

4.0 PRACTICAL APPLICATION

In the practical session, students will be learned on administering and securing the server, implement the security application and analyze the ethical cases.

5.0 REFERENCE

1. *CompTIA Security+ Guide to Network Security Fundamentals*, 6th edition, Cengage Learning, Mark Ciampa, 2018, ISBN 9781305093911
2. *Introduction to Computer Security*, Pearson New International Edition, Michael Goodrich, and Roberto Tamassia, 2017, ISBN 9780133575477.
3. *Network Security Essentials: Applications and Standards*, 6th edition, Pearson Education Limited, W. Stallings, 2017, ISBN 9780134527338.
4. *Certified Information Systems Security Professional Study Guide*, 8th edition, Sybex, J.M. Stewart, M.Chapple and D.Gibson, 2018, ISBN 9781119475934.
5. *Hands-On Microsoft Windows Server 2019*, Cengage Learning, Eckert, J., 2020, ISBN 9780357436271.
6. *Computer Security Threats*, IntechOpen, Thomas, C., Fraga-Lamas, P. and Fernández-Caramés, T.M., 2020, ISBN 9781838802394.
7. *Enhancing Business Continuity and IT Capability: System Administration and Server Operating Platforms*, CRC Press, Bajgorić, N., Turulja, L., Ibrahimović, S. and Alagić, A., 2020, ISBN 9781000289411.

6.0 IMPLEMENTATION METHOD

i. Lecture
   - 2 hr per week for 14 weeks (Total = 28 hours)

ii. Laboratory or Practical Activities
   - 2hr per week for 14 weeks (Total = 28 hours)

iii. Assessment

7.0 COURSE EVALUATION

Assessment Method	LO 1	LO 2	LO 3
Lab Activity (2) = 20%		L1 (10%)	L2 (10%)
Assignments (1) = 10%		ASG1 (10%)	
Mini Project (2) = 20%		P1 (10%)	P2 (10%)
Quiz (1) = 5%			QZ1 (5%)
Mid Term (1) = 15%	MT (15%)		
Final Assessment (1) = 30%	FA (30%)		
Total	45%	30%	25%

8.0 STUDENT LEARNING TIME

		Guided Learning Time				Independent Learning								Assessment Time				
Week	CLO	L	T	P	O	L	T	P	O	F	T	A	O	F	T	A	O	SLT
W1	1	0	0	0	4	0	0	0	2	0	0	4.6	0	0	0	1.15	0	11.75
W2	1	2	0	2	0	1	0	1	0	0	0	0.6	0	0	0	0.15	0	6.75
W3	2	2	0	2	0	1	0	1	0	0	0	4.6	0	0	0	1.15	0	11.75
W4	2	2	0	2	0	1	0	1	0	0	0	0.6	0	0	0	0.15	0	6.75
W5	2	2	0	2	0	1	0	1	0	0	0	4.6	0	0	0	1.15	0	11.75
W6	3	2	0	2	0	1	0	1	0	0	0	0.6	0	0	0	0.15	0	6.75
W7	3	2	0	2	0	1	0	1	0	0	0	4.6	0	0	0	1.15	0	11.75
W8	3	2	0	2	0	1	0	1	0	0	0	0.6	0	0	0	0.15	0	6.75
W9	3	2	0	2	0	1	0	1	0	0	4	0.6	0	0	0	0.15	0	6.75
W10	3	2	0	2	0	1	0	1	0	0	0	0.6	0	0	0	0.15	0	6.75
W11	1	2	0	2	0	1	0	1	0	0	0	2	0	0	0	0.5	0	8.5
W12	1	2	0	2	0	1	0	1	0	0	0	2	0	0	0	0.5	0	8.5
W13	1	2	0	2	0	1	0	1	0	0	0	2	0	0	0	0.5	0	8.5
W14	1	2	0	2	0	1	0	1	0	0	0	2	0	0	0	0.5	0	8.5
>W14		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Overall		26	0	26	4	13	0	26	2	8	4	9.6	0	0	0	4.9	0	121.5
															SLT Credit Equivalent			3.04

9.0 TENTATIVE CLASS SCHEDULE

Weeks	Title	Delivery Methods	References
1	**Online Learning** Introduction to Computer Security & Computer Threats. https://www.youtube.com/watch?v=432IHWNMqJE https://www.youtube.com/watch?v=6p_q_Xp--Rs&t=45s https://www.youtube.com/watch?v=UJEwjGB1lk0 https://www.youtube.com/watch?v=ni-ByB4XGmI https://www.youtube.com/watch?v=TvVfDJZ7Qcg https://www.youtube.com/watch?v=pfnFqOItSIg Lab Session: Solving Question	Online Lab 1	YouTube YouTube
2	**Introduction to Security** Security definition and Security principles, Security Information Systems, Security Policy, Threats and Safeguard, Methods of defense and Controls, Security Services, Security Mechanism Lab Session: Using NTFS to secure local resources, data confidentiality, data availability and data integrity.	Lecture Lab 2	[2, 3, 7]
3	**Preparing to Administer a Workstation** Overview, Administering a Workstation, Configuring Remote Workstation to Administer a Workstation, Managing Remote Workstation Connections Authentication and Basic Cryptography Lab Session: Caesar Cipher	Lecture Lab 3	[1, 3, 4]
4	**Preparing to Monitor Workstation Performance** Overview, Introduction to Monitoring Workstation Performance, Performing Real-Time and Logged Monitoring, Configuring and Managing Counter Logs, Configuring Alerts Lab Session: Preparing to Administer a Workstation, Password Calculation	Lecture Lab 4	[1, 3, 4]
5	**Monitoring Workstation Performance** Overview, Multimedia: The Primary Workstation Subsystems, Monitoring Workstation Memory, Monitoring Processor Usage, Monitoring Disks, Monitoring Network Usage Log Analysis Lab Session: Monitoring Server Performance	Lecture Lab 5	[1, 3, 4]
6	**Managing Disks** Overview, Preparing Disks, Managing Disk Properties, Managing Mounted Drives, Converting Disks, Creating Volumes, Importing a Disk. Access Control	Lecture	[1, 3, 4]

	Lab Session: Managing Disks, Access Control Administration	Lab 6	
7	**Maintaining Device Drivers** Overview, Configuring Device Driver Signing Options, Using Device Driver Rollback Lab Session: Maintaining Device Drivers	Lecture MIDTERM Lab 7	[1, 3, 4]
	MID SEMESTER BREAK		
8	**Managing Data Storage** Managing data storage Data Security and Secure Data Disposal Lab Session: Managing data storage	Lecture Lab 8	[1, 3, 4]
9	**Managing Disaster Recovery** Overview, Preparing for Disaster Recovery, Backing Up Data, Scheduling Backup Jobs, Restoring Data, Configuring Shadow Copies, Recovering from Workstation Failure, Selecting Disaster Recovery Methods, What Are Workstation Disaster Recovery Tools Lab Session: Managing Disaster Recovery	Lecture Lab 9	[1, 3, 6]
10	**Maintaining Software by Using Software Update Services** Overview, Introduction to Software Update Services, Installing and Configuring Software Update Services, Managing a Software Update Services Infrastructure Project Implementation 1 (Progress Update)	Lecture Lab (Project)	[1, 3, 4]
11	**Security Services** Overview, Email Security, HTTP security, IP Security, FTP, Telnet/SSH. Project Implementation 2 (Progress Update)	Lecture Lab (Project)	[3, 4, 7]
12	**Program Security** Secure Programs, Non-malicious program errors, Viruses and other malicious code, Targeted malicious code, Control against program threats Project Implementation 3 (Progress Update)	Lecture Lab (Project)	[3, 4, 7]
	Physical Security	Lecture	[2, 4, 5, 7]

13	• Physical Controls (Location environment, Construction, Physical barriers, Physical Surveillance), Technical Controls (Personnel Access Control, Technical Surveillance, Ventilation, Power Supply, Fire Suppression, Natural Disaster) Project Implementation 4 (Progress Update)	 Lab (Project)	
14	**Legal, Privacy and Ethical Issues in Computer Security** • Basic Legal Issues (Protecting Programs and Data, Information and the Law, Ownership Rights of Employees and Employers, Software Failures), Computer crime, Privacy and Ethics. Project Implementation 5 (Final)	 Lecture Lab (Project)	 [8]
15	**REVISION WEEK**		
16	**FINAL EXAM WEEK**		