

1.	Name of Course/Module	Computer Security
2.	Course Code	TSC2211
3.	Status of Subject	Major for B.IT Security Technology
4.	MQF Level/Stage	Bachelor Degree – MQF Level 6
5.	Version (state the date of the last Senate approval)	June 2012
6.	Requirement for Registration	TCP1241 Computer Programming II
7.	Name(s) of academic/teaching staff	Ong Thian Song Asrul Hadi b Yaacob Chong Lee Ying
8.	Semester and Year offered	Trimester 2 (Gamma Level)
9.	Objective of the course/module in the programme :	
	To introduce the different security threats in computing environment and the solutions.	
10.	Learning Outcomes :	
	At the completion of the subject, students should be able to:	
	LO1: Describe the fundamental concepts of computer and network security (Cognitive, Level 1)	
	LO2: Explain the potential threats and security issues in network and database computing environment.(Cognitive, Level 2)	
	LO3: Apply security measures, physical protection, access control, and cryptography techniques in computer security. (Cognitive, Level 3)	
	LO4: Identify legal and ethical issues on computer security, software violation, and computer-based security standards. (Cognitive, Level 1)	
11.	Synopsis:	
	The major area of this course includes: Potential threats such as Viruses, Worms, basic of cryptography, encryption algorithms, Network security, database security and legal issues.	
	Bidang tumpuan kursus ini meliputi pelbagai jenis potensi ancaman seperti virus, cacing, asas kriptografi, algoritma kriptografi, jaringan dan pangkalan data securiti serta isu-isu yang berkaitan dengan undang-undang komputer securiti.	
12.	Mapping of Subject to Programme Outcomes :	
	Programme Outcomes	% of Contribution
	PO1: Apply soft skills in work and career related activities	30

	PO7: Demonstrate knowledge and understanding of essential facts, concepts, principles, and theories relating to security technology	30
	PO8: Apply principles and knowledge of security technology in relevant areas	40
13.	Assessment Methods and Types :	
	Method and Type	Description/Details
	Test	Written Exam
	Quiz	Written Test
	Lab Assignment	Report
	Final Exam	Written Exam
14.	Details of Subject	
	Topics	Mode of Delivery
		Lecture
		Lab
	1. Fundamental of Computer Security Objectives, privacy and Ethics, Risk Analysis in computer security, Threats and security, security measures, physical protection (natural disaster, Physical facility, Access Control, Hardware and Software Security Control, Viruses (Trojan Horses, Worms and Logic Bomb), Encryption and Cryptography Techniques.	8
	2. Developing Secure Computer Systems External Security Measures, Issue, Security Models (Specification and Verification, Bell and LaPadulla Model, Clark-Wilson Model, Goguen-Meseguar, TCSED), Discretionary Access and Information Flow Control, Auditing and Intrusion Detection, Damage Control and Assessment, Microcomputer Security	6
	3. Network and Telecommunication Security Fundamentals, Issue, Objective and Threats, Security Services, Distributed System Security, The Trusted Network Interpretation, TNI Security Services, AIS Interconnection Issues, Firewalls (Gateway, Application, Cost and Effectiveness)	6
	4. Database Security Security Requirements to Databases, Designing the Security, Methods of Protection, Security of Multilevel Database	4
	5. Legal Issue and Current Legislation Computer Crime, Software Violation, Crimes, Privacy Considerations, Corporate Policy, Managerial Issues, Government – based Security Standards, New Techniques and future Plans : Ergonomics	4
	Total	28
		16
15.	Labs	
16.	Total Student Learning Time (SLT)	Face to Face (Hour)
	Lecture	28
	Laboratory/Practical	16
	Presentation	-
	Assignment	-
		Total Guided and Independent Learning
		28
		8
		-
		12

	Mid Term Test	1	5
	Final Exam	2	20
	Quizzes	2	2
	Sub Total	49	75
	Total SLT	124/40 = 3.1 => 3	
17.	Credit Value	3	
18.	Reading Materials :		
	Textbook	Reference Materials	
	1. Charles P. Pfleeger, "Security in Computing" 4th Edition Prentice-Hall Inc, 2007	2. William Stallings and Lawrie Brown, "Computer Security: Principles and Practice", Pearson Education 2008	
19.	Appendix (to be compiled when submitting the complete syllabus for the programme) :		
	<ol style="list-style-type: none"> 1. Mission and Vision of the University and Faculty 2. Mapping of Program Objectives to Vision and Mission of Faculty and University 3. Mapping of Program Outcome to Programme Objectives 4. Programme Objective and Outcomes (Measurement and Descriptions) 		