



UNIVERSITI TEKNOLOGI MARA

CSC098: FOUNDATION COMPUTING I

Course Name (English)	FOUNDATION COMPUTING I APPROVED
Course Code	CSC098
MQF Credit	5
Course Description	The Foundation Computing I course focuses on the basic knowledge of computer system, the Internet, communication and networking, and general purpose and engineering application softwares in producing information. This course is designed with a logical progression of topics arranged for students, who are entering tertiary education with different learning styles and varied stages of preparedness to further their studies at higher level. The purpose of this course is to produce students with knowledge of computer technology and problem-solving skills in order to develop long-term retention of principles and practice needed in their future studies. The goal will be accomplished by thorough guidance methods, in-class exercises and hands on exercises. By the end of this course, students are expected to acquire and apply knowledge of computer to respective fields of engineering, medicine, health, environment, agriculture, and industry.
Transferable Skills	Students are expected to acquire and apply knowledge of computer to respective fields of engineering, medicine, health, environment, agriculture, and industry.
Teaching Methodologies	Lectures, Lab Work
CLO	<p>CLO1 Differentiate between traditional and contemporary computing in producing information.</p> <p>CLO2 Display the use of open source computer software and hardware in activating robotic movement.</p> <p>CLO3 Demonstrate social skills and responsibility in community service through sharing knowledge of using productivity software</p> <p>CLO4 Analyse the weaknesses and strengths of ubiquitous open technology in producing information</p>
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction to ICT 1.1) Evolution of Computer and the Internet 1.2) Ubiquitous Technologies and Societies, Internet of Things 1.3) Hardware Components & Assessing Hardware 1.4) System Software, OS, Utility, File Management 1.5) Application Software	
2. Basic Digital System 2.1) Number System 2.2) Logic Gates	
3. The Concept of Internet and Networking 3.1) Concept of the Internet and Networking 3.2) Networking Fundamentals, Architecture, Components 3.3) Classification, Topologies, Device, Security	
4. Protecting Digital Data and Devices 4.1) Major Threats to Digital Assets 4.2) Protecting Digital Property	

5. Database and Big Data

- 5.1) Database Fundamental
- 5.2) Database in Business
- 5.3) Big Data Fundamental

6. Hands-On Application Module (At least any 3 applications)

- 6.1) Word Processing
- 6.2) Spreadsheet Software
- 6.3) Presentation Graphic Software
- 6.4) Arduino
- 6.5) Big Data Application

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Case Study	Written assignment 1000 words, 10% marks, individual task, 7 weeks	10%	CLO4
	Community Service	Student demonstrate their knowledge and skills in productivity software by sharing it to community	10%	CLO3
	Final Test	Written, consist of MCQ questions, structure questions, 4 main chapters, 3 hours, 100 marks	50%	CLO1
	Group Project	Project in a group consist of 5-6 number of students. They have to produce prototype and display robotic movement by using open source computer software and hardware.	15%	CLO2
	Test	Midterm test, consist of MCQ and Short Structures, 1.5hours,	15%	CLO1

Reading List	Recommended Text	<ul style="list-style-type: none"> Alan D. Evans, Kendall E. Martin, Mary Anne Poatsy 2019, <i>Technology In Action</i>, 15 Ed., Pearson Higher Education & Professional Group [ISBN: 9781292311883]
	Reference Book Resources	<ul style="list-style-type: none"> Alan Evans, Kendall Martin, Mary Anne Poatsy 2017, <i>Technology in Action</i>, 14 Ed., Pearson [ISBN: 9780134608228] Alan Evans, Kendall Martin, Mary Anne Poatsy 2015, <i>Technology in Action Complete</i>, 12 Ed., Prentice Hall [ISBN: 9780133949568] Ronald Tocci, Greg Moss, Neal Widmer 2016, <i>Digital Systems</i>, 12 Ed., Prentice Hall [ISBN: 0134220137] Thomas Erl, Wajid Khattak, Paul Buhler 2015, <i>Big Data Fundamentals</i>, 1 Ed., Prentice Hall [ISBN: 0134291077]
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	