1.	Name of Course/Module	Human Aspects of Healthcare Information Systems
2.	Course Code	HHA3019
3.	Status of Subject	[Leave blank]
4.	MQF Level/Stage	Bachelor Degree – MQF Level 6
5.	Version (state the date of the last Senate approval)	[Leave blank]
6.	Requirement for Registration	none
7.	Name(s) of academic/teaching staff	to be appointed
8.	Semester and Year offered	[Leave blank]
9.	Objective of the course/module in the programme :	
	It has become increasingly recognized that the design, implementation and deployment of successful healthcare information systems is dependent on careful consideration of a variety of human aspects. These include the study of human-computer interaction, human factors, the impact of systems on healthcare reasoning and cognition, as well as consideration of social factors related to successful technology deployment. Indeed, the field of health informatics is littered with examples of systems and projects that have failed in large part due to lack of consideration of such essential human aspects of health informatics. In this course, a comprehensive framework for considering human aspects of health informatics will be presented.	
10.	Learning Outcomes :	
	At the completion of the subject, students should be able to: 1. consider and apply human-centered methods and approaches in the development of more efficient and effective health care information systems; 2. analyze the role of human cognition and reasoning in successful implementation of health informatics applications; 3. use human-centered and socio-technical approaches to improve the acceptance of healthcare systems; 4. apply methods from workflow analysis and usability engineering in the design and implementation of healthcare information systems.	
11.	Synopsis:	
	This course includes the study of human-computer interaction in the design of a range of health informatics applications, an introduction to the study of medical cognition, consideration of methods of evaluating system usability and usefulness, and socio-technical aspects of successful healthcare system design. In addition, approaches to the design of systems that are safe and that reduce human error in healthcare will be emphasized.	
	Pelajar akan mempelajari interaksi manusia-komputer dalam mereka sistem kesihatan automasi, perubatan cognition, tatacara permilihan dan kegunaan dari segi socio-technical dalam sistem informasi kesihatan. Selain itu, sistem tersebut juga perlu digunakan dengan selamat and mengurangkan kesialapan manusia.	

Comment [s1]:

12. Mapping of Subject to Programme Outcomes :

Programme Outcomes	% of Contribution
PO1: [Leave blank]	40
PO7: [Leave blank]	30
PO8: [Leave blank]	30
PO6: [Leave blank]	0

13. Assessment Methods and Types :

Method and Type	Description/Details	Percentage
Test		30%
Quiz		0%
Assignment	Report & Presentation	30%
Final Exam		40%

14. Details of Subject

Topics	Mode of Delivery	
	Lecture	Tutorial
1. Human Side of Human-Computer Interaction: Human Characteristics - Physiological and Psychological Attributes: Sensory and Motor Systems, Ergonomics, Memory, Thinking - Problem Solving and Reasoning, Skills Acquisition, Implications of limitations for interface design and development, Human Diversity	2	1
2. Nature of Human Computer Interaction (HCI): Human Centered Perspective, HCI for Communication, Tool Paradigm, Supervisory Control, Virtual Reality, Ubiquitous Computing, Input and Output devices: Traditional and Emerging Technologies	2	1
3. Understanding and conceptualizing interaction Problem space, conceptual model, interface metaphors, interaction paradigms.	2	1
4. Understanding users, their tasks, effects of interface to users User and Task Analysis, Cognition process, framew ork for cognition, mental model, information processing, psychology aspects of the user, affective aspects, expressive interface, user frustration, virtual characters (agents).	2	1
5. The interaction design Good and poor design, interaction design, goals of interaction design and usability principles and concepts, guidelines and standards. Design Process, Methodologies and Cognitive Engineering: User Centered Lifecycle models, Usability engineering, Iterative prototyping, Task Analysis, Cognitive Models, Socio-technical Models, Participatory Design,	8	4
6. Usability study Usability principles and concepts, guidelines and standards. Methodology for conducting usability of the information system	2	1

	7. Designing for collaboration and communication. Social mechanisms in communication and collaboration, collaboration mechanisms (email, bulletin board, video conferences, virtual collaborative environment), groupware (time/space matrix, shared applications, synchronous and asynchronous groupware), designing collaborative technologies. Design for: Graphical User Interface (GUI), Web, Natural Language Interface and Input Devices, Medical Errors, Multimedia, CSCW, EMR, PDA	6	3
	8. Implementation support and Evaluation User Interface, System Management/Development, Toolkits, Goals and Methods of Evaluation, Evaluation Framework, Data Interpretation	2	1
	9. Application Areas and Related Social Issues: Medical/Health Care, Business, Critical Systems, Mobile Technology, Groupware, Entertainment, Web Interfaces, Accessibility, Education, Social and Ethical Issues of technological change.	2	1
	Total	**28**	**14**

15.	Tutorials Parallel to the lecture topics		
16.	Total Student Learning Time (SLT)	Face to Face (Hour)	Total Guided and Independent Learning
	Lecture	28	28
	Tutorials	14	14
	Laboratory/Practical		
	Presentation		
	Assignment	-	12
	Mid Term Test	1	5
	Final Exam	2	20
	Quizzes	0	0
	Sub Total	45	79
	Total SLT	124/40 = 3.1 => 3	
17.	Credit Value	3	
18.	Reading Materials :		
	Textbook	Reference Materials	

	1. Jennifer Preece, Yvonne Rogers, and Helen Sharp, Interaction Design: Beyond Human-Computer Interaction, John Wiley, 2002. 2. Cognition, 3rd edition. Mark h. Ashcraft, Prentice Hall. 2002.	1. Ben Schneiderman, Designing the User Interface: Strategies for Effective Human-Computer Interaction, 4th Edition, Addison Wesley, 2004. 2. Alan Dix, Janet Finlay, Gregory Abowd, and Russel Beale, Human-Computer Interaction, 3rd Edition, Prentice Hall, 2004. 3. John M. Carroll, Human-Computer Interaction in the new millennium, Addison Wesley, 2001.. 4. Interaction Design: Beyond Human-computer Interaction 2Rev Ed edition. Helen Sharp, Yvonne Rogers, Jenny Preece. John Wiley and Sons Ltd; (12 Jan 2007) 5. Cognition: Theory and Applications. Stephen K. Reed, Wadsworth Publishing; 6 th edition, 2003. 6. Mind: Introduction to Cognitive Science. Paul Thagard. MIT Press, 1996.
19.	Appendix (to be compiled when submitting the complete syllabus for the programme) : 1. Mission and Vision of the University and Faculty 2. Mapping of Programme Objectives to Vision and Mission of Faculty and University 3. Mapping of Programme Outcome to Programme Objectives 4. Progarmme Objective and Outcomes (Measurement and Descriptions)	