COURSE INFORMATION

Faculty:	Faculty of Computing	**Page:**	1 of 7
Program name:	Bachelor of Computer Science (Bioinformatics/Graphics and Multimedia Software/Networks and Security/Software Engineering)		
Course code:	SECD2613	**Academic Session/Semester:**	20242025/2
Course name:	System Analysis & Design	**Pre/co requisite (course name and code, if applicable):**	None
Credit hours:	3		

Course synopsis	The main focus of this course is to provide a practical approach of systems analysis and designing skills for the students using structured methodology. Hence, the course enables students to study information system requirements for any system application within an organizational context. The contents are sequentially organized directly from planning, analysis, designing and implementation phases. From the resulting output of the planning and analysis phase shall enable students to form input, output and interface design. Hence a prototype design can be demonstrated.			
Course coordinator (if applicable)	Dr. Muhammad Iqbal Tariq Bin Idris			
Course lecturer(s)	**Name (section)**	**Office**	**Contact no. / Telegram ID**	**E-mail**
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Prepared by:		Certified by:	
Name:	Muhammad Iqbal Tariq Bin Idris	Name:	
Signature:		Signature:	
Date:	14 March 2025	Date:	

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Mapping of the Course Learning Outcomes (CLO) to the Programme Learning Outcomes (PLO), Teaching & Learning (T&L) methods and Assessment methods:

No.	CLO	PLO (Code)	*Taxonomies and **generic skills	T&L methods	***Assessment methods
CLO 1	Analyze the concepts of system development life cycle (SDLC) in an information systems project using structured methodology.	PLO1 (KW)	C4	KWL chart, Jigsaw-activity, Mind-mapping	Mid Term Test: 10% Final Exam: 20% Assignment 1: 5%
CLO 2	Design phase based on requirement in real-world case study using structured methodology.	PLO2 (AP)	C5	KWL chart, Jigsaw-activity, Mind-mapping	Mid Term Test: 5% Final Exam: 10% Assignment 2: 5% Quiz 1: 5%
CLO 3	Develop wireframe of information system for the real-world case study application using structured methodology.	PLO2 (AP)	C6	Group Discussion TPS, Project - case study	Phase 1 report: 5% Phase 2 report: 5% Phase 3 report: 5%
		PLO3 (PS)	C6		Phase 1 report: 5% Phase 2 report: 5% Phase 3 report: 10%
CLO 4	Ability to do work effectively in a team in delivering the SDLC output.	PLO7 (TW)	TW1, P3	Collaborative GD using Trello app, Self & Peers reflection using Teammates app/ Google Form	3 Phases x Peer assessment: 5% Phase 1 : 1% Phase 2 : 1% Phase 3 : 3%

Details on Innovative T&L practices:

No.	Type	Implementation
1.	KWL (Know-What-Learn) chart	Conducted activity to engage students in a new topic, activate prior knowledge, share unit objectives, and monitor students' learning.
2.	Jigsaw-activity	Conducted collaborative group activity where students effectively teach each other (with the teacher's guidance) a given skill or procedure, topic or problem.
3.	Mind-mapping	Conducted activity to visually organize information.
4.	Project - case study	Conducted based on given real world problem. The students have to manage their projects by submitting specified deliverables based on the given problem. The problems are given in sequential steps throughout the semester.
5.	Collaborative Group Discussion (Trello)	Students use an online platform to interact with peers by posting thoughts or comments in response to their project discussion.
6.	Self & Peers reflection	Students assessing their own work and provide feedback to each other on their work.

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Weekly Schedule

Week	Topic
Week 1 17/3 - 21/3	**TOPIC I SYSTEMS ANALYSIS FUNDAMENTAL** **Part 1** ● Organizational impact on Information System ● Types of Information Systems **Part 2** ● Systems analyst role **Part 3** ● Types, trend and approach towards developing information system
Week 2 24/3 - 28/3	**TOPIC II PROJECT PLANNING PROCESS** **Part 1** ● Project feasibility studies ● Project initiation **Part 2** ● Project planning and control
Week 3 31/3 - 4/4	**Part 2 (Continue)** ● Project schedules and techniques (Gantt Chart, PERT Chart, Critical Path Method) ● WBS **Part 3** ● Project cost management (CBA) ● Project Management ● Introduction to Project Management Software (Note: Project & P1 briefing) **Assignment 1: 5%**
Week 4 7/4 - 11/4	**TOPIC III INFORMATION REQUIREMENT TASK** **Part 1** ● Information Gathering – Interactive Methods **Part 2** ● Information Gathering – Unobtrusive Methods (Note: **P1 submission: 10%,** P2 briefing)
Week 5 14/4 - 18/4	**TOPIC IV THE ANALYSIS PROCESS** **Part 1** ● Introduction to Data Flow Diagrams (DFD) **Assignment 2: 5%** **Part 2** ● DFD Errors ● Introduction to DFD Enterprise Architect

Week 6 21/4 - 25/4	**Mid Term Test: 15%** **(24 April 2025: 8pm – 10pm)**
Week 7 28/4 - 2/5	**Part 3** ● From Logical to Physical DFD ● Partitioning DFD **Quiz 1: 5%**
MID-SEMESTER BREAK **5/5 - 11/5**	
Week 8 12/5 - 16/5	**Part 4** ● Describing Process Specification and techniques (Decision trees, Decision table, Structured English) ● Design Structure Chart (Note: **P2 submission: 10%,** P3 briefing)
Week 9 19/5 - 23/5	**TOPIC V THE DESIGN TASK** **Part 1** **Design System Architecture** ● Designing User Interfaces ● Storytelling HCI ● Designing Effective Output ● Designing Effective Input
Week 10 26/5 - 30/5	Introduction of designing tools (Figma)
Week 11 2/6 - 6/6	**TOPIC VI SYSTEMS IMPLEMENTATION** **Part 1** ● User Testing and acceptance test ● Training plan & strategies
Week 12 9/6 - 13/6	**TOPIC VI SYSTEMS IMPLEMENTATION (Continue)** **Part 2** ● Implementation plan & strategies
Week 13 16/6 - 20/6	Project assessment and group presentation **(P3 submission: 15%, Peer assessment: 5%)**
Week 14 23/6 - 27/6	Project submission
Revision Week **30/6 - 6/7**	
Examination Week – Final Exam : 30% **7/7 - 27/7**	

Transferable skills (generic skills learned in course of study which can be useful and utilised in other settings):

Team working
Written communication

Student learning time (SLT) details:

Distribution of student Learning Time (SLT) Course content outline	Guided Learning (Face to Face)				Teaching and Learning Activities		TOTAL SLT
					Guided Learning Non-Face to Face	Independent Learning Non-Face to face	
CLO	**L**	**T**	**P**	**O**			
CLO1 – 35%	12h			1h*	12h	11h	36h
CLO2 – 25%	6h			1h*	6h	5h	18h
CLO3 – 35%	18h				18h	16h	52h
CLO4 – 5%	4h				3h	4h	11h
Total SLT	**40h**			**2h**	**39h**	**36h**	**117**

L: Lecture, T: Tutorial, P: Practical, O: Others (*Test)

Continuous Assessment		**PLO**	**Percentage**	**Total SLT**
1	Group Project	AP	15	As in CLO3
		PS	20	
		TW	5	As in CLO4
2	Assignment	KW	5	As in CLO1
		AP	5	As in CLO2
3	Quiz	AP	5	As in CLO2
Final Assessment		**PLO**	**Percentage**	**Total SLT**
1	Mid-Term Test	KW	10	As in CLO1
		AP	5	As in CLO2
2	Final Examination	KW	20	As in CLO1 and CLO2 + 3h
		AP	10	
			Grand Total SLT	**120h**

Special requirement to deliver the course (e.g: software, nursery, computer lab, simulation room):

i. draw.io
ii. Figma app

Learning resources:

Main references

Kendall & Kendall. (2019). *System Analysis & Design*, 10th edition, Essex: Pearson Education Limited.

Additional references

Valacich, George & Hoffer (2015). *Essentials of Systems Analysis & design*, 6th Edition, Essex: Pearson Education Limited.

Tilley & Rosenblatt (2017). *System Analysis and Design*. 11th Edition, Singapore. Cengage Technology Edition.

Online Platform

http://elearning.utm.my

Academic honesty and plagiarism:

Assignments are individual tasks and NOT group activities (UNLESS EXPLICITLY INDICATED AS GROUP ACTIVITIES) Copying of work (texts, lab results etc.) from other students/groups or from other sources is not allowed. Brief quotations are allowed and then only if indicated as such. Existing texts should be reformulated with your own words used to explain what you have read. It is not acceptable to retype existing texts and just acknowledge the source as a reference. Be warned: students who submit copied work will obtain a mark of **zero** for the assignment and exams and disciplinary steps may be taken by the Faculty. It is also unacceptable to do somebody else's work, to lend your work to them or to make your work available to them to copy.

Other additional information (Course policy, any specific instruction etc.):

1. Attendance is compulsory and will be taken in every lecture session. **Student with less than 80% of total attendance is not allowed to sit for final exam.**
2. Students are required to behave and **follow the University's dressing regulation and etiquette** all the time.
3. Exercises and tutorial will be given in class and some may be taken for assessment. **Students who do not do the exercise will lose the coursework marks for the exercise.**
4. Assignments must be submitted on the due dates. Some points will be deducted for late submissions. **Assignments submitted three days after the due date will not be accepted.**
5. **Make up exam will not be given, except to students who are sick and submit medical certificate confirmed by UTM panel doctors.** Make up exam can only be given within one week of the initial date of exam.

No	Assessments	Sub Total (%)	Total (%)
1	PROJECT (P1-P3):		40
	Project 1- Project Proposal & Planning	10	
	Project 2- IS Gath & Requirement & System Analysis	10	
	Project 3- Design & wireframe	15	
	Peer	5	
2	Quiz x 1		5
3	Assignment x 2		10
4	Mid-Term Exam		15
5	Final Exam		30
	Total (%)		100