KING'S OWN INSTITUTE*

Success in Higher Education

ICT703 INFORMATION SYSTEMS ANALYSIS AND DESIGN T326 BRIEF

All information in the Subject Outline is correct at the time of approval. KOI reserves the right to make changes to the Subject Outline if they become necessary. Any changes require the approval of the KOI Academic Board and will be formally advised to those students who may be affected by email and via Moodle.
Information contained within this Subject Outline applies to students enrolled in the trimester as indicated

1. General Information

1.1 Administrative Details

Associated HE Award(s)	Duration	Level	Subject Coordinator
Master of Information Systems (MIS) Graduate Diploma of Information Systems (GDIS) Graduate Certificate of Information Systems (GCIS)	1 trimester	Level 8 Graduate Certificate	Name: Dr Jnanamurthy HK Email: jnanamurthy.hk@koi.edu.au P: 92833583 L: Level 7-11, 11 York St Consultation: via Moodle or by appointment

1.2 Core / Elective

This subject is a core subject for MIS, GDIS and GCIS).

1.3 Subject Weighting

Indicated below is the weighting of this subject and the total course points.

Subject Credit Points	Total Course Credit Points
4	MIS (64 Credit Points); GDIS (32 Credit Points); GCIS (16 Credit Points)

1.4 Student Workload

Indicated below is the expected student workload per week for this subject

No. timetabled hours/week*	No. personal study hours/week**	Total workload hours/week***
3 hours/week plus supplementary online material	7 hours/week	10 hours/week

* Total time spent per week at lectures and tutorials
** Total time students are expected to spend per week in studying, completing assignments, etc.
*** Combination of timetable hours and personal study.

1.5 Mode of Delivery Classes will be face-to-face or hybrid. Certain classes will be online (e.g., special arrangements).

1.6 Pre-requisites There are no pre-requisites for this subject.

1.7 General Study and Resource Requirements

- Students are expected to attend classes with the required textbook and to read specific chapters prior to the tutorials. Students should read this material before coming to class to improve their ability to participate in the weekly activities.
- Students will require access to the internet and their KOI email and should have basic skills in word

processing software such as MS Word, spreadsheet software such as MS Excel and visual presentation software such as MS PowerPoint.
- Computers and WIFI facilities are extensively available for student use throughout KOI. Students are encouraged to make use of the campus Library for reference materials.

Software resource requirements specific to this subject:

Microsoft Office with Microsoft Visio and Microsoft Project installed

1.8 Academic Advising

Academic advising is available to students throughout teaching periods including the exam weeks. As well as requesting help during scheduled class times, students have the following options:

- Consultation times: A list of consultation hours is provided on the homepage of Moodle where appointments can be booked.
- Subject coordinator: Subject coordinators are available for contact via email. The email address of the subject coordinator is provided at the top of this subject outline.
- Academic staff: Lecturers and Tutors provide their contact details in Moodle for the specific subject. In most cases, this will be via email. Some subjects may also provide a discussion forum where questions can be raised.
- Head of Program: The Head of Program is available to all students in the program if they need advice about their studies and KOI procedures.
- Vice President (Academic): The Vice President (Academic) will assist students to resolve complex issues (but may refer students to the relevant lecturers for detailed academic advice).

2. Academic Details

2.1 Overview of the Subject

Businesses and organisations use various types of information systems to support the many processes needed to carry out their business functions. Each information system has a particular purpose or focus, and each has a life of its own. This "life of its own" concept is referred to as the systems development life cycle (SDLC), and includes the entire project selection and management, requirements determination, use case analysis, user interface design and program design for an information system. This subject provides a broad understanding of Information Systems Analysis and Design (ISAD) and deals with software development activities including agile and traditional approaches.

2.2 Graduate Attributes for Undergraduate Courses

Graduates of Postgraduate courses from King's Own Institute will achieve the graduate attributes expected from successful completion of a Master's degree under the Australian Qualifications Framework (2nd edition, January 2013). Graduates at this level will be able to apply an advanced body of knowledge from their major area of study in a range of contexts for professional practice or scholarship and as a pathway for further learning.

King's Own Institute's generic graduate attributes for a master's level degree are summarised below:

	KOI Master's Degree Graduate Attributes	Detailed Description
	Knowledge	Current, comprehensive and coherent knowledge, including recent developments and applied research methods
	Critical Thinking	Critical thinking skills to identify and analyse current theories and developments and emerging trends in professional practice
	Communication	Communication and technical skills to analyse and theorise, contribute to professional practice or scholarship and present ideas to a variety of audiences.
	Research and Information Literacy	Cognitive and technical skills to access and evaluate information resources, justify research approaches and interpret theoretical propositions
	Creative Problem Solving Skills	Cognitive, technical and creative skills to investigate, analyse and synthesise complex information, concepts and theories, solve complex problems and apply established theories to situations faced in professional practice.
	Ethical and Cultural Sensitivity	Appreciation and accountability for ethical principles, cultural sensitivity and social responsibility, both personally and professionally
	Leadership and Strategy	Initiative, leadership skills and ability to work professionally and collaboratively to achieve team objectives across a range of team roles. Expertise in strategic thinking, developing and implementing business plans and decision making under uncertainty
	Professional Skills	High level personal autonomy, judgement decision-making and accountability required to begin professional practice.

Across the course, these skills are developed progressively at three levels:

- **Level 1 Foundation –** Students learn the skills, theories and techniques of the subject and apply them in stand-alone contexts.
- **Level 2 Intermediate –** Students further develop skills, theories and techniques of the subject and apply them in more complex contexts, beginning to integrate the application with other subjects.
- **Level 3 Advanced** – Students have a demonstrated ability to plan, research and apply the skills, theories and techniques of the subject in complex situations, integrating the subject content with a range of other subject disciplines within the context of the course

2.3 Subject Learning Outcomes

Listed below, are key knowledge and skills students are expected to attain by successfully completing this subject:

Subject Learning Outcomes	Contribution to Course Graduate Attributes
a) Apply the fundamental approaches and models in the study of systems planning, analysis, design, testing and deployment	

b) Analyse different phases of the system development life cycle	
c) Analyse the requirements for developing an information system and apply appropriate modelling tools to system design	
d) Explain how the components of information system design apply to organisational settings	

2.4 Subject Content and Structure

Below are details of the subject content and how it is structured, including specific topics covered in lectures and tutorials. Reading refers to the text unless otherwise indicated.

Weekly Planner:

Week (beginning)	Topic covered in each week's lecture	Reading(s)	Expected work as listed in Moodle
Week 1 26 October	Introduction to Information Systems Analysis and Design	Ch 1	Tutorial exercises on the system development life cycle and organizational feasibility analysis Formative not graded
Week 2 02 November	Project Selection and Management	Ch 2	Tutorial exercises on project methodology options – agile versus traditional, developing a work plan Formative not graded
Week 3 09 November	Requirements Determination	Ch 3	Tutorial exercises on requirements elicitation and activity diagrams Formative not graded
Week 4 16 November	Use case analysis	Ch 4	Tutorial exercises on creating use case diagram for functional requirements by UML Formative not graded
Week 5 23 November	Process modelling	Ch 5	Tutorial exercises on data flow diagram Formative not graded **Assessment 1: Online quiz**

Week 6 30 November	Data Modelling	Ch 6	Tutorial exercises on the entity relationship Diagram Formative not graded
Week 7 07 December	Domain Modelling	Ch 6 Alan Ch 4 Satzinger	Tutorial exercises on System design and class diagrams Formative not graded
Week 8 14 December	Transition from requirements to design	Ch 6	Tutorial exercises on system acquisition strategies Formative not graded **Assessment 2 due**
Week 9 04 January	Architecture Design	Ch 7	Tutorial exercises on client-server architecture design (mobile application architecture) Formative not graded
Week 10 11 January	User Interface Design	Ch 8	Tutorial exercises on user interface design, layout, aesthetics, usage level, and consistency Formative not graded
Week 11 18 January	Moving to implementation	Ch 11	Tutorial exercises on deployment activities, types of software tests, and approaches to data conversion Formative not graded **Assessment 3 due** **Group Assessment**
Week 12 25 January	Revision		Formative not graded **Assessment 4 due** **Presentation**
Week 13 01 February	Study review week and Final Exam Week		
Week 14 08 February	- Final Exam Week - Continuing students - enrolments for T127 open	Please see the exam timetable for the exam date, time and location	
Week 15 15 February	- Student Vacation begins - New students - enrolments for T127 open		
Week 16 22 February	o Results Released o Review of Grade Day for T326 – see Sections 2.6 and 3.2 below for relevant		

	information. o Certification of Grades NOTE: More information about the dates will be provided at a later date through Moodle/KOI email.
T127 01 March 2027	
Week 1 01 March	Week 1 of classes for T127

2.5 Teaching Methods/Strategies

Briefly described below are the teaching methods/strategies used in this subject:

- *Sessions* (3 hours/week) are conducted in seminar style and address the subject content, provide motivation and context and draw on the students' experience and preparatory reading. Sessions include class discussion of case studies and research papers, practice sets and problem-solving and syndicate work on group projects. Sessions often include group exercises and so contribute to the development of teamwork skills and cultural understanding. Session participation is an essential component of the subject and contributes to the development of many of the graduate attributes (see section 2.2 above). Session participation contributes towards the assessment in many subjects (see details in Section 3.1 for this subject). Supplementary session material such as case studies, recommended readings, review questions etc. will be made available each week in Moodle.
- *Online* teaching resources include class materials, readings, model answers to assignments and exercises and discussion boards. All online materials for this subject as provided by KOI will be found in the Moodle page for this subject. Students should access Moodle regularly as material may be updated at any time during the trimester
- *Other contact* - academic staff may also contact students either via Moodle messaging, or via email to the email address provided to KOI on enrolment.

2.6 Student Assessment

Assessment is designed to encourage effective student learning and enable students to develop and demonstrate the skills and knowledge identified in the subject learning outcomes. Assessment tasks during the first half of the study period are usually intended to maximise the developmental function of assessment (formative assessment). These assessment tasks include weekly tutorial exercises (as indicated in the weekly planner) and low stakes graded assessments (as shown in the graded assessment table). The major assessment tasks where students demonstrate their knowledge and skills (summative assessment) generally occur later in the study period. These are the major graded assessment items shown in the graded assessment table.

Final grades are awarded by the Board of Examiners in accordance with KOI's Assessment and Assessment Appeals Policy. The definitions and guidelines for the awarding of final grades are:

- HD High distinction (85-100%): an outstanding level of achievement in relation to the assessment process.
- D Distinction (75-84%): a high level of achievement in relation to the assessment process.
- C Credit (65-74%): a better than satisfactory level of achievement in relation to the assessment process.
- P Pass (50-64%): a satisfactory level of achievement in relation to the assessment process.
- F Fail (0-49%): an unsatisfactory level of achievement in relation to the assessment process.

- FW: This grade will be assigned when a student did not submit any of the compulsory assessment items.

Provided below is a schedule of formal assessment tasks and major examinations for the subject.

Assessment Type	When assessed	Weighting	Learning Outcomes Assessed
Assessment 1: Quiz (In-class, face-to-face)	Week 5	20%	a, b
Assessment 2: Individual written assessment (1500 words) and Reflection document (500 words)	Week 8	40%	a, b, c
Assessment 3: Modelling diagrams and system analysis report Group written Report with Self-reflection (1500 words for group report and 250 words for self-reflection report)	Week 11	30% (25% group + 5 % individual reflection)	a, b, c, d
Assessment 4: Group Presentation	Week 12	10% (group, in class face to face)	a, b, c, d

Requirements to Pass the Subject:

To gain a pass or better in this subject, students must gain a minimum of 50% of the total available subject marks.

2.7 Prescribed and Recommended Readings

Provided below is a list of the prescribed and recommended readings

Prescribed Texts:

Dennis, A., Wixom, B. H., & Roth, R. M. (2021). *Systems analysis and design* (8th ed.). Wiley. https://www.wileydirect.com.au/blog/buy/systems-analysis-and-design/?srsltid=AfmBOopbCpby1BcOTudLpLjZHN1M1KBxjEqPQHYDrpW58tgLjBJDOuDo

Recommended Readings

Intal, G. L., Llena, G. A., Vidal, P. L., & Young, A. (2024). System analysis and design of an automated charity donation system using design thinking methodology. In *Proceedings of the 2023 8th International Conference on Information Systems Engineering (ICISE '23)* (pp. 29–35). Association for Computing Machinery. https://doi.org/10.1145/3641032.3641048

Recommended Journals

Durrani, U. K., Akpinar, M., Bektas, H., & Saleh, M. (2025). Impact of artificial intelligence on software engineering phases and activities (2013–2024): A quantitative analysis using zero-truncated Poisson model. *IEEE Access, 13*, 95535–95547. https://doi.org/10.1109/ACCESS.2025.3574462

Holzmann, G. J. (2025). The analysis of safety critical software systems. *IEEE Transactions on Software Engineering, 51*(3), 774–777. https://doi.org/10.1109/TSE.2025.3532391

Span, M., Salinger, G., & Daily, J. (2025). EGRESS: A methodology for eliciting goals for requirements engineering of secure systems. *IEEE Open Journal of Systems Engineering, 3*, 68–80. https://doi.org/10.1109/OJSE.2025.3633241

Useful Websites

The following websites are useful sources covering a range of information useful for this subject. However, most are not considered to be sources of Academic Peer Reviewed theory and research. If your assessments require ***academic peer reviewed journal articles*** as sources, you need to access such sources using the Library database, Ebscohost, or Google Scholar. Please ask in the Library if you are unsure how to access Ebscohost. Instructions can also be found in Moodle.

System Analysis and Design – Overview
https://www.tutorialspoint.com/system_analysis_and_design/system_analysis_and_design_overview.htm
System Analysis and Design – YouTube
https://www.youtube.com/watch?v=pOzSIT2Chi0
Effectiveness of Systems Analysis and Design Education: An Exploratory Study
https://www.igi-global.com/article/effectiveness-systems-analysis-design-education/3754
BA Training | Business analysis Training | MS Visio GUI ... – YouTube
https://www.youtube.com/watch?v=B0atlsLCqcg