ICT304 ENTERPRISE SYSTEMS AND ARCHITECTURE T325 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
Bachelor of Information Technology (BIT)	1 trimester	Level 3	Najamul Khan najamul.khan@koi.edu.au P: +61 (2) 9283 3583 L: 7-11, 11 York St. Consultation: via Moodle or by appointment.

1.2 Core / Elective

Elective subject for BIT

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	BIT (96 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***
4 hours/week (2 hour Lecture + 2 hour Tutorial)	6 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 ICT103 System Analysis and Design and ICT204 Project Management

1.7 General Study and Resource Requirements

- Dedicated computer laboratories are available for student use. Normally, tutorial classes are conducted in the computer laboratories.
- Students are expected to attend classes with the requisite textbook and must read specific chapters prior to each tutorial. This will allow them to actively take part in discussions. Students should have elementary skills in both word processing and electronic spreadsheet software, such as Office 365 or MS Office.

- 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.
- Students will require access to the internet and email. Where students use their own computers, they should have internet access. KOI will provide access to required software.

Resource requirements specific to this subject: MS Imagine, Office 365.

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

Enterprise architecture (EA) involves conducting an enterprise-wide analysis and designing, planning and implementing systems for the successful development and execution of business strategies in an organisation. This subject looks at the importance of enterprise architecture and systems to support business strategies. Students will gain knowledge of EA frameworks, including Zachman's framework and TOGAF. Students will evaluate and compare alternative EA approaches, including planning for organisational change, change management and governance, documentation of an EA in standard formats, and modelling approaches.

2.2 Graduate Attributes for Undergraduate Courses

Graduates of Bachelor courses from King's Own Institute (KOI) will achieve the graduate attributes expected under the Australian Qualifications Framework (2nd edition, January 2013). Graduates at this level will be able to apply a broad and coherent 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 bachelor's level degree are summarised below:

	KOI Bachelor Degree Graduate Attributes	**Detailed Description**
	Knowledge	Current, comprehensive, and coherent and connected knowledge
	Critical Thinking	Critical thinking and creative skills to analyse and synthesise information and evaluate new problems
	Communication	Communication skills for effective reading, writing, listening and presenting in varied modes and contexts and for transferring knowledge and skills to a variety of audiences

	Information Literacy	Information and technological skills for accessing, evaluating, managing and using information professionally
	Problem Solving Skills	Skills to apply logical and creative thinking to solve problems and evaluate solutions
	Ethical and Cultural Sensitivity	Appreciation of ethical principles, cultural sensitivity and social responsibility, both personally and professionally
	Teamwork	Leadership and teamwork skills to collaborate, inspire colleagues and manage responsibly with positive results
	Professional Skills	Professional skills to exercise judgement in planning, problem solving and decision making

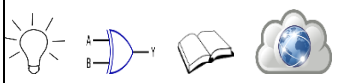
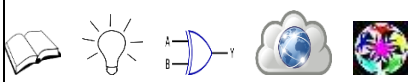
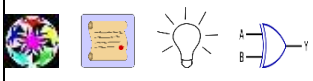
Across the course, these skills are developed progressively at three levels:

- **Level 1 Foundation** – Students learn the basic skills, theories and techniques of the subject and apply them in basic, standalone contexts
- **Level 2 Intermediate** – Students further develop the skills, theories and techniques of the subject and apply them in more complex contexts, and begin to integrate this application with other subjects.
- **Level 3 Advanced** – Students demonstrate an 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

This is a Level 3 subject.

On successful completion of this subject, students should be able to:

Subject Learning Outcomes	Contribution to Graduate Attributes
a) Explain the importance of enterprise systems to support business strategy and apply the concepts of enterprise architecture in an organisational setting.	
b) Describe the role of enterprise systems as part of the larger IT infrastructure of large scale organisations.	
c) Analyse conceptual architectures, frameworks and methodologies related to the design and implementation of enterprise information systems.	
d) Evaluate and compare various types of enterprise resource planning (ERP) software solutions and justify a choice for specified requirements.	

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 27 Oct	Introduction to Enterprise Systems	Valacich. J, and Christoph. S. Ch.1, Ch.2 and Ch. 7	Tutorial task covering topics on Case Studies to discuss the need for Information/Enterprise Systems Formative, weekly tutorial
Week 2 03 Nov	Enterprise Systems Architecture	Banger. D.R Part I and Web Resources	Tutorial tasks covering the purpose of the architecture Graded
Week 3 10 Nov	Planning and Developing the Architecture	Banger. D.R Part II	Tutorial tasks covering topics on the business models and Architectural Principles Graded
Week 4 17 Nov	Modelling and Implementing the EA	Banger. D.R Part IV	Tutorial tasks on SOW, Success in Planning and Challenges of EA Graded
Week 5 24 Nov	Disseminating and Governing the EA	Banger. D.R Part III	Tutorial tasks on Information Dissemination and Presentation of EA information Graded **Assessment 2 due**
Week 6 01 Dec	EA Framework Part I: TOGAF and Zachman Architecture	Banger. D.R Part I and Web Resources	Tutorial tasks on Zachman and TOGAF Framework Graded
Week 7 08 Dec	EA Framework Part II: FEAF and DODAF	Banger. D.R Part I and Web Resources	Tutorial tasks on FEAF and DODAF Framework Graded
Week 8 15 Dec	Developing and Acquiring Information Systems	Valacich. J, and Christoph. S. Ch.10	Tutorial tasks on Enterprise System and its architectures
Week 9 05 Jan	ERP Architecture and Business Process	Valacich. J, and Christoph. S. Ch.7	Tutorial tasks on business process innovation with ERP systems Graded **Assessment 3 Due**

Week 10 12 Jan	Supply Chain Management Systems	Valacich. J, and Christoph. S. Ch.8	Tutorial tasks on Supply Chain Components and Application of Supply Chain using case Studies Graded
Week 11 19 Jan	Customer Relationship Management Systems	Valacich. J, and Christoph. S. Ch.8	Tutorial tasks on CRM Modules and Application of Supply Chain using case studies. Graded Revision
Week 12 27Jan (Tue)	Securing Information Systems Final Exam Review	Valacich. J, and Christoph. S. Ch.10	**Assessment 4 Due** Report and Presentation
Week 13 02 Feb	Study review week and Final Exam Week		
Week 14 09 Feb	Examinations Continuing students - enrolments for T126 open		Please see exam timetable for exam date, time and location
Week 15 16 Feb	Student Vacation begins New students - enrolments for T126 open		
Week 16 23 Feb	• Results Released • Review of Grade Day for T325 – see Sections 2.6 and 3.2 below for relevant information. • Certification of Grades NOTE: More information about the dates will be provided at a later date through Moodle/KOI email.		
T126 2 Mar 2026			
Week 1 02 Mar	Week 1 of classes for T126		

2.5 Teaching Methods/Strategies

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

- *Lectures* (2 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.
- *Tutorials* (2 hours/week) include class discussion of case studies and research papers, practice sets and problem-solving and syndicate work on group projects. Tutorials often include group exercises and so contribute to the development of teamwork skills and cultural understanding. Tutorial participation is an essential component of the subject and contributes to the development of many of the graduate attributes (see section 2.2 above). Tutorial participation contributes towards the assessment in many subjects (see details in Section 3.1 for this subject). Supplementary tutorial 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 assessment (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 within the BIT degree are:

- HD High distinction (85-100%) an outstanding level of achievement in relation to the assessment process.
- DI Distinction (75-84%) a high level of achievement in relation to the assessment process.
- CR 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.

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: Tutorial Exercises	Weeks 2 - 11	10%	a, b, c, d
Assessment 2: Short Answer Quiz - Individual Assessment	Week 5	10%	a, b
Assessment 3: Individual report (1,500 words)	Week 9	15%	a, b
Assessment 4: Group Report Case Study (2,500 words) and presentation	Week 12	25%	c, d

Assessment 5: Final examination On-campus: 2 hours + 10 mins reading time	Final exam period	40%	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, in formal reference format, is a list of the prescribed and recommended readings.

Prescribed Texts:

Valacich, J. and Schneider, C., 2022. *Information systems today: Managing in the digital world*. Global Edition. Pearson Education Limited. Available from: ProQuest Ebook Central.

Banger, D.R., 2022. *Enterprise systems architecture: Aligning business operating models to technology landscapes*. Apress.

Recommended Readings:

McDowall, J.D., 2019. *Complex enterprise architecture: A new adaptive systems approach*. Apress. Available from: O'Reilly E-book.

Anthony Jnr, B., Petersen, S.A. and Krogstie, J., 2023. A model to evaluate the acceptance and usefulness of enterprise architecture for digitalization of cities. *Kybernetes*, 52(1), pp.422–447.

Beese, J. et al., 2023. The impact of enterprise architecture management on information systems architecture complexity. *European Journal of Information Systems*, 32(6), pp.1070–1090. doi:10.1080/0960085X.2022.2103045.

Wedha, B.Y. and Hindarto, D., 2023. Maximizing ERP benefits with enterprise architecture: A holistic approach. *Journal of Computer Networks, Architecture and High Performance Computing*, 5(2), pp.703–713. doi:10.47709/cnahpc.v5i2.2790.

Shahadat, M.H., Chowdhury, A.H.M.Y., Nathan, R.J. and Fekete-Farkas, M., 2023. Digital technologies for firms' competitive advantage and improved supply chain performance. *Journal of Risk and Financial Management*, 16(2), p.94.

Koutsev, S., 2021. *The practice of enterprise architecture: A modern approach to business and IT alignment*. S.K. Publishing.

Journal Articles:

Anthony Jnr, B., Petersen, S.A. and Krogstie, J., 2023. A model to evaluate the acceptance and usefulness of enterprise architecture for digitalization of cities. *Kybernetes*, 52(1), pp.422–447.

Glazkova, I., 2021. The impact of business processes on the efficiency of small and medium-sized enterprises. *Montenegrin Journal of Economics*, 17(3), pp.131–143.

Jwo, J., Lin, C. and Lee, C., 2021. An interactive dashboard using a virtual assistant for visualizing smart manufacturing. *Mobile Information Systems*, 2021.

Le Vély, R.H., 2022. *Utilizing enterprise architecture frameworks to enable desired emergent behaviors of an enterprise transformation* (Doctoral dissertation, Massachusetts Institute of Technology).

Ponsard, C., 2022. Assessing IT architecture evolution using enriched enterprise architecture models. *arXiv preprint*, arXiv:2204.06226.

Sigalov, K., Ye, X., König, M., Hagedorn, P., Blum, F., Severin, B., Hettmer, M., Hückinghaus, P., Wölkerling, J. and Groß, D., 2021. Automated payment and contract management in the construction industry by integrating building information modeling and blockchain-based smart contracts. *Applied Sciences*, 11(16), p.7653.

Tamm, T., Seddon, P.B. and Shanks, G., 2022. How enterprise architecture leads to organisational benefits. *International Journal of Information Management*, 67, p.102554.

Wu, M., 2021. Optimization of e-commerce supply chain management process based on Internet of Things technology. *Complexity (New York, N.Y.)*, 2021, pp.1–12.

Suggested Conference/ Journal Articles: ***(Mandatory)***

Walton, S., Wheeler, P. and Yiang, Z., 2023. Intended and unintended consequences of ERP system implementation. *Accounting Horizons*, 37(4), pp.177–205. doi:10.2308/HORIZONS-2020-192.

Panjavongroj, S. and Phruksaphanrat, B., 2022. Selection of ERP systems and the best practice by hybrid method: A case study of Thai automotive supply chain network. *Journal of Intelligent & Fuzzy Systems*, 43(6), pp.7617–7631. doi:10.3233/JIFS-221476.

Journals:

- *Journal of Enterprise Architecture*
- *Journal of Enterprise Information Management*
- *Enterprise Information Systems*

Students are encouraged to read peer reviewed journal articles and conference papers. Google Scholar provides a simple way to broadly search for scholarly literature. From one place, you can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites.

Useful Websites: ***(Mandatory)***

The following industry websites are useful introductory sources covering a range of information useful for this subject.

- https://www.accenture.com/au-en/insights/digital-transformation-index#:~:text=Digital%20transformation%20is%20the%20process,for%20employees%2C%20customers%20and%20shareholders.
- https://www.leanix.net/en/wiki/tech-transformation/erp-transformation
- https://www.netsuite.com/portal/resource/articles/erp/supply-chain-management-erp.shtml
- https://www.ecisolutions.com/industries/manufacturing/erp-buyers-guide/how-to-build-an-erp-project-plan-and-timeline/

The following websites are highly recommended 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.

- https://www.cio.com/article/3313657/what-is-enterprise-architecture-a-framework-for-transformation.html
- https://www.visual-paradigm.com/guide/project-management/what-is-pmo-in-project-management/
- https://www.visual-paradigm.com/guide/software-development-process/what-is-a-software-development-lifecycle/ https://www.lucidchart.com/blog/as-is-process-analysis
- https://blog.triaster.co.uk/blog/as-is-to-be-essential-business-model-process-improvement
- https://searchcio.techtarget.com/definition/business-process-management
- https://www.ibm.com/topics/digital-transformation
- https://pubs.opengroup.org/togaf-standard/adm-practitioners/adm-practitioners_3.html
- https://www.ardoq.com/knowledge-hub/what-is-enterprise-architecture