



ICT106 DATA COMMUNICATIONS AND NETWORKS T320 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 1	Mel Razmjoo mel.razmjoo@koi.edu.au P: 92833583 L: Level 1-2, 17 O'Connell St. Consultation: via Moodle or by appointment.

1.2 Core / Elective

Core 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 Blended, that is face-to-face/online

1.6 Pre-requisites NIL

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 Word and MS Excel.
- 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.

2 Academic Details









2.1 Overview of the Subject

The subject provides the foundation knowledge of computer and network infrastructure. Students study the physical and logical components of ICT including the concepts and terminologies relating to computers and networking. Specifically, the subject focuses on computer architecture components, operating systems, network evolution, network hardware, network protocols and security. This subject provides the pre-requisite knowledge required for advanced networking and security courses.

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 across a range of contexts for the purposes of professional practice or academic scholarship, and as a pathway for further learning.

King's Own Institute's key 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 1 subject.

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

Subject Learning Outcomes	Contribution to Graduate Attributes
a) Discuss fundamental concepts of computer and data networks	
b) Explain how protocols are used to link computer networks and manage data traffic.	
c) Apply IP addressing, routing and subnetting in the design of a network	
d) Apply networking concepts to solve a business problem.	

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
1 02 Nov	Introduction	Chapter 1	Discuss review questions in the tutorial on different types of computer networks. Summative worth 1%
2 09 Nov	Network hardware essentials	Chapter 2	Discuss review questions in the tutorial on network essentials. Summative worth 1%
3 16 Nov	Network topologies and technologies	Chapter 3	Discuss review questions in the tutorial on topologies and technologies. Summative worth 1%
4 23 Nov	Network media	Chapter 4	Discuss review questions in the tutorial on network media. Summative worth 1%
5 30 Nov	Network protocols Revision for Mid Trimester Test	Chapter 5	Discuss review questions in the tutorial on network protocols. Summative worth 1%
6 07 Dec	Network Protocols	Chapter 5	Assessment 2: Mid trimester test (1 hour). Summative worth 10%
7 14 Dec	IP Addressing	Chapter 6	Discuss review questions in the tutorial on IP Addressing. Summative worth 1%
20 Dec 2020 – 03 Jan 2021	Mid trimester break		
8 04 Jan	IP Addressing	Chapter 6	Discuss review questions in the tutorial on IP Addressing. Summative worth 1%

9 11 Jan	Network reference models	Chapter 7	Discussion and working on group project Practical tutorial activities on transforming E-R diagrams to normalised relations and physical database design. Formative not graded Deferred mid trimester exams - see Section 2.6 below for more information
10 18 Jan	Hardware in depth	Chapter 8	Discuss review questions in the tutorial on network hardware. Summative worth 1%
11 25 Jan	Introduction to network security	Chapter 9	Discuss review questions in the tutorial on network security. Summative worth 1% Assignment 3 due: Individual report: Summative worth 25%
12 01 Feb	Revision		Assignment 3 due: Presentation Summative worth 5%
13 07 Feb	Study review week		
14 15 Feb	Examination		Please see exam timetable for exam date, time and location
15 21 Feb	Student Vacation begins Enrolments for T121 open		
16 02 Mar	Results Released 02 Mar 2021 Certification of Grades 05 Mar 2021		
T121 begins 09 Mar 2021			
1 08 Mar	Week 1 of classes for T121 Friday 05 Mar 2021 – Review of Grade Day for T320 – see Sections 2.6 and 3.2 below for more information.		

2.7 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.

2.8 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 1-5 and Weeks 7-11	10%	a, b, c, d
Assessment 2: Mid-trimester Test (1 hour)	Week 6	10%	a, b
Assessment 3: Problem based scenario Individual report (1,000 words) Individual presentation (5 minutes)	Week 11 Week 12	25% 5% Total: 30%	c, d
Assessment 4: final exam (2,5 hours plus 10 minutes reading time)	Final exam period	50%	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.

2.9 Prescribed Readings

Prescribed Texts:

Tomsho, G., 2020. *Guide to Networking Essentials*. 8th ed. Cengage: Boston. USA.