Course Code:	1004QBT
Course Name:	**Foundations of Computing Systems**
Semester:	**Semester 1, 2016**
Program:	Diploma of Information Technology
Credit Points:	10
Course Coordinator:	Shahrzad Saremi
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Teaching Team

Your lecturer/tutor can be contacted via the email system on the portal.	
Name	**Email**
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Staff Consultation

Your lecturer/tutor is available each week for consultation outside of normal class times. Times that your lecturer/tutor will be available for consultation will be given in the first week of lectures. A list of times and rooms will be published on the Griffith College Portal under the "myTimetable" link.

Prerequisites

There are no prerequisites for this course

Brief Course Description

This course provides a foundational understanding of computing systems, taking into account the historical, social and technological context within which such systems have developed and are now deployed. The topics covered include the history of computing, the theoretical foundations of computing, the practical foundations of computer hardware and architecture, and an investigation into the theoretical and historical foundations of information technology and the social consequences of the deployment of this technology. This course was previously known as Foundations of Computing and Communication

Rationale

Foundations of Computing Systems provides a general introduction to computing and computer technology by first tracing the historical development of modern technological society and then looking in more detail at information technology and its impact on the modern world. The course will examine the principles behind modern computer architectures and languages, concentrating on the broader significance of computing in the intellectual, social and economic development of the modern world.

Main Topics:

1. Historical roots of technological society

2. The nature of scientific investigation

3. History of computing

4. Theoretical and technical basis of computing

5. The impact of information technology on the individual and society

Aims

The primary aim of the course is to provide students with an historical perspective on information technology, introducing the ideas and developments that have been significant in shaping modern technological society, describing and defining computing and computer technology and looking at the impact of this technology on the contemporary world. From this it is expected that students will gain an informed critical perspective from which to assess both the positive and negative aspects of current and future applications of information technology.

The course is further intended to provide students with a practical understanding of the architecture and operation of a basic computer system. As a result, it is expected that students will be able to answer, in some detail from a technical perspective, the question, "How does a computer system work?"

In professional terms, the course aims to introduce students to a broader view of their role as an IT professional, fostering a more informed and ethical perspective on the development and use of information technology, while also developing the student's ability to independently research and critically appraise the impacts of such technology.

Learning Outcomes

After successfully completing this course you should be able to:

1 An historical perspective on the development of computer technology
2 A theoretical and practical understanding of the nature of computing
3 A critical understanding of the application of computer technology
4 Ability to effectively communicate interpersonally and in group situations
5 Ability to independently gather appropriate research material
6 Ability to critically appraise differing viewpoints

Texts and Supporting Materials

Required Resources
Thornton, J. (2007). The Foundations of Computing and the Information Technology Age: A historical, sociological and philosophical enquiry. Sydney: Pearson Education Australia (ISBN 0733988482).

Recommended Resources
Blundell, B. G. (2007). Computer Systems and Networks, London: Thompson Learning (ISBN 978-1-84480-639-3).

Organisation and Teaching Strategies

Class Contact Summary

Content Schedule

Weekly Teaching Schedule

Week	Topic	Activity	Readings
1	Introduction and Administration	Lecture	Textbook: Introduction
2	Binary and Boolean	Lecture	Textbook Chapter 6
3	Computing with Switches and Circuits	Lecture	Textbook Chapter 6
4	The Boolean Machine	Lecture	Textbook Chapter 6
5	Computer Architecture	Lecture	Textbook Chapter 1, Textbook Chapter 6
6	Early mathematical foundations	Lecture	Textbook Chapter 1
7	The birth of the modern era	Lecture	Textbook Chapter 2
8	The mechanical age	Lecture	Textbook Chapter 3
9	The first computing machines	Lecture	Textbook Chapter 4
10	Effective methods and algorithms	Lecture	Textbook Chapter 4
11	The Turing Machine	Lecture	Textbook Chapter 5
12	Turing and Artificial Intelligence	Lecture	Textbook Chapter 5
13	Revision	Lecture	

Assessment

This section sets out the assessment requirements for this course.

Summary of Assessment

Item	Assessment Task	Weighting	Relevant Learning Outcomes	Due Date

1	Computer Systems Assignment	30%	1,2,3,5,6	Week 8
2	Assessed Workshop 1	5%	2,3,4,5,6	Week 4
3	Assessed Workshop 2	5%	1,2,3,4,5,6	Week 7
4	Assessed Workshop 3	10%	1,2,3,4,5,6	Week 10
5	Assessed Workshop 4	10%	1,3,4,5,6	Week 12
6	Exam	40%	1,2,3,6	Final Exam Week

Assessment Details

Computer Systems Assignment

Due: Week 5
Weight: 30%
Task Description:

The assignment will test students\' understanding of the operation of a computer system.

A detailed description of the assessment task, including marking criteria, will be provided to students during class time.

Assessed Workshops

Due Date: Weeks 3, 6, 9 and 12
Weight: 30% total (5%, 5%, 10%, 10%)
Task Description:

A series of FOUR assessed workshops will test students\' understanding of practical academic skills, through the lens of Foundations of Computing Systems topics.

Students will be assessed on key skills, including:
- Research
- Referencing
- Note-taking
- Decision-making
- Justification of statements

Details of each workshop will be provided during class time 3 weeks prior to submission.

Final Exam

Due Date: Examination Period
Weight: 40%
Perusal: 10 minutes
Duration: 150 minutes
Format: Closed Book
Task Description:

The final examination will test students\' specific understanding of the lecture material via a set of written short answer, long response and problem solving questions under restricted conditions. The final exam will be a \"closed book\" examination and students will not be allowed any written material.

Submission and Return of Assessment Items

Normally you will be able to collect your assignments in class within fourteen [14] days of the due date for submission of the assignment.

Retention of Originals

You must be able to produce a copy of all work submitted if so requested. Copies should be retained until after the release of final results for the course.

Extensions

To apply for an extension of time for an assignment, you must submit an Application for Extension of Assignment form to your teacher at least 24 hours before the date the assignment is due. Grounds for extensions are usually: serious illness, accident, disability, bereavement or other compassionate circumstances and must be able to be substantiated with relevant documentation [e.g. Griffith College Medical Certificate]. Please refer to the Griffith College website - Policy Library - for

guidelines regarding extensions and deferred assessment.

Assessment Feedback

Marks awarded for assessment items will also be available on the on-line grades system on the Student Website within fourteen [14] days of the due date. Detailed feedback will be emailed upon request. Students may also book consultations for in-person discussions of their performance.

Generic Skills

Griffith College aims to develop graduates who have an open and critical approach to learning and a capacity for lifelong learning. Through engagement in their studies, students are provided with opportunities to begin the development of these and other generic skills.

Studies in this course will give you opportunities to begin to develop the following skills:

Generic Skills	Taught	Practised	Assessed
Written Communication	Yes	Yes	Yes
Oral Communication	Yes	Yes	
Information Literacy	Yes	Yes	Yes
Secondary Research	Yes	Yes	Yes
Critical and Innovative Thinking	Yes	Yes	Yes
Academic Integrity		Yes	Yes
Self Directed Learning		Yes	
Team Work			
Cultural Intelligence		Yes	Yes
English Language Proficiency		Yes	Yes

Additional Course Generic Skills

Additional Course Information

Academic Integrity

Griffith College is committed to maintaining high academic standards to protect the value of its qualifications. Academic integrity means acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research. It is important for students, teachers, researchers and all staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. Academic integrity is important for an individual's and the College's reputation.

All staff and students of the College are responsible for academic integrity. As a student, you are expected to conduct your studies honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these standards is considered a breach of academic integrity and is unacceptable.

Some students deliberately breach academic integrity standards with intent to deceive. This conscious, pre-meditated form of cheating is considered to be one of the most serious forms of fraudulent academic behaviour, for which the College has zero tolerance and for which penalties, including exclusion from the College, will be applied.

However, Griffith College also recognises many students breach academic integrity standards without intent to deceive. In these cases, students may be required to undertake additional educational activities to remediate their behaviour and may also be provided appropriate advice by academic staff.

As you undertake your studies at Griffith College, your lecturers, tutors and academic advisors will provide you with guidance to understand and maintain academic integrity; however, it is also your responsibility to seek out guidance if and when you are unsure about appropriate academic conduct.

Please ensure that you are familiar with the **Griffith College Academic Integrity Policy**; this policy provides an overview of some of the behaviours that are considered breaches of academic integrity, as well as the penalties and processes involved when a breach is identified.

For further information please refer to the Academic Integrity Policy on the Griffith College website – Policy Library.

Risk Assessment Statement

There are no out of the ordinary risks associated with this course.