1. General Course Information

1.1 Course Details

Course Code:	1802ITC
Course Name:	Foundation of Systems Development
Trimester:	Trimester 1, 2023
Program:	Diploma of Information Technology
Credit Points:	10
Course Coordinator:	Dr. Seyedali Mirjalili
Document modified:	20/01/2023

Course Description

A system can be defined as a set of components that interact or depend upon each other, forming an integrated whole. Systems thinking can be used to tackle almost any problem imaginable, in order to identify requirements (systems analysis) and find solutions to meet them (systems design). This course will provide you, as a future business analyst and Information Technology (IT) / Computer Science (CS) professional, with software development and acquisition competencies that will underpin your entire career. You will learn how to plan the development of an information system, analyse and discover requirements, and select optimal design solutions. You will manage the system development processes by adopting an Agile methodology, which is currently a popular project management approach used in industry for software development.

One of the roles of the IT professional is to design and build software systems and integrate them into an organisation. This course develops the skills to gather requirements, then develop/source, evaluate and integrate components into a single system, and finally validate the system. It also covers the fundamentals of software lifecycles, quality, software development processes, project management and the interplay between IT applications and organisational processes and relevant standards and tools.

Assumed Knowledge

There are no prerequisites for this course.

1.2 Teaching Team

Your teacher/s can be contacted via email as below:

You will also find their email in the Teacher's tile on your Course Site.

Name	Email
Dr. Seyedali Mirjalili	ali.mirjalili@staff.griffithcollege.edu.au

1.3 Meet with your teacher

Your teacher is available each week to meet outside of normal class times. This is called consultation. Times that your teacher will be available for consultation will be found on the Teacher's tile on your Course Site.

1.4 Timetable

Your timetable is available on the Griffith College Digital Campus at My Apps, Timetable.

1.5 Technical Specifications

All students must have access to a computer or suitable mobile device such as laptop or tablet (mobile phones are not suitable). In addition, up-to-date browser access, a reliable high-speed internet connection with enough upload and download capacity, a webcam and headset including microphone are needed.

2. Aims, Outcomes & Generic Skills

2.1 Course Aims

This course aims to develop knowledge and skills necessary for effective software development, by:

- detailing the main software development activities and outlining the skills required to perform them
- introducing elements of project management relevant to software development / acquisition including Agile development methodologies
- explaining principles of systems level design.

2.2 Learning Outcomes

After successfully completing this course you should be able to:

1. Demonstrate through the use of project management tools your ability to undertake a risk analysis, cost benefit analysis, estimate a budget and propose a project schedule for an information system or software development project.
2. Understand and apply appropriate techniques to analyse, model, and document system requirements
3. Explain and apply techniques for design, implementation, testing, and deployment in an information system or software development project

2.3 Graduate Capabilities and Employability Skills

For further details on the Graduate Capabilities and Employability Skills please refer to the Graduate Generic Skills and Capabilities policy.

Griffith College is committed to producing graduates who are able to demonstrate progress toward the development of a number of generic skills / capabilities that will allow them to successfully continue their studies at the tertiary level. This set of skills includes employability related skills that will ensure graduates are capable in the workplace of the future.

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

<table>
<tr><th colspan="3">Graduate Capabilities and Employability Skills</th><th>Focus within this course</th></tr>
<tr><td rowspan="3">Interacting with People</td><td>Teamwork</td><td>💡</td><td>✓</td></tr>
<tr><td>Communication</td><td>💬</td><td>✓</td></tr>
<tr><td>Respect for Culture and Diversity</td><td>🌐</td><td></td></tr>
<tr><td rowspan="3">Readiness for the Workplace</td><td>Problem Solving</td><td>⚙️</td><td>✓</td></tr>
<tr><td>Planning and Organisation</td><td>📊</td><td>✓</td></tr>
<tr><td>Creativity and Future Thinking</td><td>🌱</td><td>✓</td></tr>
</table>

3. Learning Resources

3.1 Required Learning Resources

Satzinger, J. W., Jackson, R. B., & Burd, S. D. (2016). Systems analysis and design in a changing world. Cengage learning.

3.2 Recommended Learning Resources

Please refer to the course webpage.

3.3 College Support Services and Learning Resources

Griffith College provides many facilities and support services to assist students in their studies. Links to information about support resources that are available to students are included below for easy reference.

- Digital Library – Databases to which Griffith College students have access to through the Griffith Library Databases.

- Study Toolbox – there is a dedicated website for this course on the Griffith College Digital Campus.

- Academic Integrity- Griffith College is committed to ensuring academic integrity is understood and maintained by all staff and students. All students learn about academic integrity through engagement with Academic Integrity online modules within the Academic and Professional Studies course.

- Services and Support provides a range of services to support students throughout their studies including academic advice and assignment help from Student Learning Advisors, and personal and welfare support from Student Counsellors.

- Jobs and Employment in the Student Hub can assist students with career direction, resume and interview preparation, job search tips, and more.

- IT Support provides details of accessing support, information on s numbers and internet access and computer lab rules.

3.4 Other Information about your Learning

Preparation and Participation in Learning

You need to prepare before attending your scheduled Learning Experience (In Class). Work through the Learning Content (Before Class) prepared by your teacher which is found on the course site. Make sure you complete the Learning Activities (After Class) set each week. Active participation in your learning will enhance your success. Ask questions when something is unclear or when you want to bring some issue to your teacher's attention; respond to questions to test your knowledge and engage in discussion to help yourself and others learn.

Attendance

You are expected to actively engage in all learning experiences which underpin the learning content in this course. You are expected to engage with the learning content and learning activities outside of timetabled class times. This requires you to be an active agent of your learning. You are expected to bring all necessary learning resources to class such as the required textbook and /or Workbook. In addition, you are encouraged to BYOD (bring your own device) to class such as a laptop or tablet. This is not a requirement as computer lab facilities are available on campus, however, the use of such devices in the classroom is encouraged with appropriate and considerate use principles being a priority.

Consultation Sessions

Teachers offer extra time each week to assist students outside the classroom. This is known as 'consultation time.' You may seek assistance from your teacher on email or in person according to how the teacher has explained this to the class. Attendance during consultation time is optional but you are encouraged to use this extra help to improve your learning outcomes.

Course Learning Materials

Learning materials are made available to you in the course site. The learning materials are arranged in Modules. In each Module you will find Learning Content (Before Class), Learning Experiences (In Class) and Learning Activities (After Class). **Learning Content (Before Class)** will be engaged with prior to the scheduled **Learning Experience (In Class)**. This will ensure you are prepared for the scheduled Learning Experience (In Class) by being aware of the content to be covered and therefore will be able to actively participate in the session. **Learning Activities (After Class)** are accessed after the scheduled session for purposes of review, consolidation of learning, and preparation for the Evidence of Learning Tasks (Assessments) in the course.
In addition, **Missed Class** learning material is provided in the course, providing support, interactive tools and directions for students who occasionally cannot attend the weekly scheduled Learning Experience (In Class, either in person or on Zoom) perhaps due to illness or other commitments. The Missed Class learning material should also be used in conjunction with Learning Content (Before Class) and Learning Activities (After Class) resources.

Self-Directed Learning

You will be expected to learn independently. This means you must organise and engage with the course Learning Content (Before Class) even when you are not specifically asked to do so by your teacher. The weekly guide (below) will be helpful to organise your learning. This involves revising the weekly Learning Content (Before Class) and completing the Learning Activities (After Class). It also means you will need to find additional information to evidence your learning beyond that given to you, and to construct your own response to a question or topic. All of this requires careful planning of your time.   Expect to spend, on average, at least 10 hours per week including class time for each of your courses.

Program Progression

You are reminded that satisfactory Program Progression requires that attendance in classes is maintained at   equal to or greater than 80%, students are engaged in their learning and that GPA is maintained at equal to or greater than 3.5 [please see Griffith College Policy Library - Program Progression Policy - for more information].

Teacher and Course Evaluation

Your feedback is respected and valued by your teachers. You are encouraged to provide your thoughts on the course and teaching, both positive and critical, directly to your teacher or by completing course and teacher evaluations via Griffith College's evaluation tool whenever these are available.

4. Weekly Guide: Learning Content, Learning Experiences and Learning Activities

The information below lays out how your learning will be organised throughout the trimester:

Week	Learning Content (Before Class)	Learning Experiences (In Class)	Learning Activities (After Class)	Evidence of Learning (Assessment)	Learning Outcome
Module 1: Software project planning and management					
1	Overview of the Software Development Process Chapter 1	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum		1
2	Planning a Software Project Chapter 11	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum		1
3	Project Management and Software Development Tools Chapter 11	• Weekly activity • Case study analysis • Knowledge-check quiz	• Online tutorial • Online workshop • Discussion forum	Quiz 1	1
Module 2: Software requirement analysis					
4	Analysing Systems Requirements Chapter 2 Chapter 3	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum	Assignment - Planning Document Project Management	2
5	Object-Oriented Domain Modelling Chapter 4	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum		2
6	Use Case Modelling Chapter 5	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum		2
7	Foundations for Design, Software Acquisition Chapter 6	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum	Quiz 2	2
8	Software Architecture, Organisational Context Chapter 7	• Weekly activity • Case study analysis • Knowledge-check quiz	• Online tutorial • Online workshop • Discussion forum	Assignment - Problem Solving Assignment System Analysis Report	2

		Module: Software implementation, test, and deployment			
9	Approaches to Software Development Chapter 10	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum		3
10	Software Testing, Deployment and Quality Assurance Chapter 14	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum		3
11	Other Software development lifecycles Refer to the course webpage	• Weekly activity • Case study analysis	• Online tutorial • Online workshop • Discussion forum	Quiz 3	3
12	Revision Refer to the course webpage	• Weekly activity • Case study analysis • Knowledge-check quiz	• Online tutorial • Online workshop • Discussion forum	Assignment - Problem Solving Assignment System Design Report	3

5. Evidence of Learning (Assessment)

5.1 Evidence of Learning Summary

	Evidence of Learning (Assessment)	Weighting	Learning Outcome	Due Date
1	Online Quizzes (x3)	15%	1,2,3	Week 3, 7, 11
2	Assignment - Planning Document Project Management	30%	2	Week 4
3	Assignment - Problem Solving Assignment System Analysis Report	30%	3	Week 8
4	Assignment - Problem Solving Assignment System Design Report	25%	1,2,3	Week 12

5.2 Evidence of Learning Task Detail

Please note that web applications such as ChatGPT, Google Translate, Grammarly and Youdao (or equivalent services) are not permitted for assessment creation, translation, or extensive language assistance purposes. Wikipedia, and Baidu, Weibo and WeTalk are not permitted to be used.

1. Evidence of Learning Task 1: Online Quiz (15%)

Task Type: Online Quizzes (x3)
Due Date: Week 3, Week 7, Week 11
Weight: 15%, Marked out of: 15
Length: 1 hour each
Task Description: Undertaken online in set weeks as advised on the course website. Quizzes assess all material covered by the lectures. Please note that web applications such as ChatGPT, Google Translate, Grammarly and Youdao (or equivalent services) are not permitted for assessment creation, translation, or extensive language assistance purposes. Wikipedia, and Baidu, Weibo and WeTalk are not permitted to be used.
Criteria and Marking: Students are assessed on their understanding of theoretical concepts
Submission: Online quiz

2. Evidence of Learning Task 2: Assignment 1 (30%)

Task Type: Written Assignment
Due Date: Week 4
Weight: 30%, Marked out of: 30
Task Description: The purpose of this assignment is to demonstrate your ability to apply the concepts of planning and project management to a practical scenario involving a business information system.
In the assignment, you will be required to come up with an idea for an information system and then undertake the following tasks:

1)   Identify the Problem;
2)   Quantify Project Approval Factors;
3)   Perform a Risk and Feasibility Analysis;
4)   Establish the Project Environment; and
5)   Schedule the Work.

Details will be made available on the course website. Please note that web applications such as ChatGPT, Google Translate, Grammarly and Youdao (or equivalent services) are not permitted for assessment creation, translation, or extensive language assistance purposes. Wikipedia, and Baidu, Weibo and WeTalk are not permitted to be used.

Criteria and Marking: Students are assessed on their skills to develop a project plan document. A comprehensive marking rubric and feedback sheet will be provided.

Sample assignments will be made available to help guide you.

Details will be made available on the course website.

Submission: Turnitin via the course site

3. Evidence of Learning Task 3: Assignment 2 (30%)

Task Type: Written Assignment
Due Date: Week 8
Weight: 30%, Marked out of: 30
Task Description: The purpose of this assignment is to demonstrate your ability to apply the concepts of systems analysis to a practical scenario involving a business information system.
During this assignment, you will analyse the requirements of the proposed system from Assignment 1 and undertake the following tasks:

1)   Discover and Understand the Functional and Non-Functional Requirements;
2)   Identify the various Stakeholders;
3)   Provide a Questionnaire to Gather Information;
4)   Provide Brief Use Case Descriptions;
5)   Develop a UML Use Case Diagram;
6)   Provide a Fully Developed Use Case Description;
7)   Develop a UML Activity Diagram;
8)   Develop a UML Domain Model Class Diagram; and
9)   Develop a UML System Sequence Diagram.

Details will be provided via the course web site. Please note that web applications such as ChatGPT, Google Translate, Grammarly and Youdao (or equivalent services) are not permitted for assessment creation, translation, or extensive language assistance purposes. Wikipedia, and Baidu, Weibo and WeTalk are not permitted to be used.

Criteria and Marking: Students are assessed on their skills to develop a System Analysis Report. A comprehensive marking rubric and feedback sheet will be provided.

Sample assignments will be made available to help guide you.

Details will be made available on the course website.

Submission: Turnitin via the course site

4. Evidence of Learning Task 4: Assignment 3 (25%)

Task Type: Written Assignment
Due Date: Week 12
Weight: 25%, Marked out of: 25
Task Description: The purpose of this assignment is to demonstrate your ability to apply the concepts of systems design to a practical scenario involving a business information system.
During this assignment, you will undertake a systems design for the proposed system from Assignments 1 and 2. You will undertake the following tasks:

1)   Develop a High-Level Architectural Diagram;
2)   Provide Story Boards Illustrating the User Interface;
3)   Construct a Design Class Diagram;
4)   Develop a Component Diagram;
5)   Provide a Security Analysis of the System;
6)   Provide Program Stubs for Testing;
7)   Describe the Approach for Deploying and Testing the System;

Details will be made available on the course website. Please note that web applications such as ChatGPT, Google Translate, Grammarly and Youdao (or equivalent services) are not permitted for assessment creation, translation, or extensive language assistance purposes. Wikipedia, and Baidu, Weibo and WeTalk are not permitted to be used.

Criteria and Marking: Students are assessed on their skills to develop a System Design Report. A comprehensive marking rubric and feedback sheet will be provided.

Sample assignments will be made available to help guide you.

Details will be made available on the course website.

Submission: Turnitin via the course site

In order to pass this Course, students must:
A. demonstrate assurance of learning of all learning outcomes through graded Evidence of Learning Tasks.

5.3 Late Submission

An Evidence of Learning Task submitted after the due date, without an approved extension from the teacher, will be penalised. The standard penalty is the reduction of the mark allocated to the Evidence of Learning Task by 5% of the maximum mark applicable for the Evidence of Learning Task, for each calendar day that the task is late. Evidence of learning tasks submitted more than seven calendar days after the due date are awarded zero marks.

Please refer to the Griffith College website - Policy Library > Assessment Policy for guidelines and penalties for late submission.

5.4 Other Information about Evidence of Learning

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.

Requests for extension

To apply for an extension of time for an evidence of learning task, 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 Student Medical Certificate]. Please refer to the Griffith College website – Policy Library for guidelines regarding extensions and deferred Evidence of Learning Tasks.

Return of Evidence of Learning Tasks

1. Marks awarded for in-trimester evidence of learning tasks, except those being moderated externally with Griffith University, will be available on the course site within fourteen [14] days of the due date. This does not apply to the final evidence of learning task in this course (marks for this task will be provided with the final course result).

2. Students will be advised of their final grade through the Digital Campus. Students can review their final exam papers after student grades have been published. Review of final exam papers will not be permitted after the final date to enrol.

3. Marks for **all** evidence of learning tasks including the final exam (if applicable) will be recorded in the Course Site and made available to students through the Course Site.

   The sum of your marks of evidence of learning tasks in this course does not necessarily imply your final grade for the course. Standard grade cut off scores can be varied for particular courses, so you need to wait for the official release of grades to be sure of your grade for this course.

6. Policies & Guidelines

Griffith College Evidence of Learning Tasks-related policies can be found in the Griffith College Policy Library which include the following policies:

Assessment Policy, Special Consideration, Deferred Assessment, Alternate Exam Sittings, Medical Certificates, Academic Integrity, Finalisation of Results, Review of Marks, Moderation of Assessment, Turn-it-in Software Use. These policies can be accessed within the Policy Library

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 teachers 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.

In the case of an allegation of a breach of academic integrity being made against a student he or she may request the guidance and support of a Griffith College Student Learning Advisor or Student Counsellor.

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 Griffith College website - Policy Library > Academic Integrity Policy

Reasonable Adjustments for Evidence of Learning Tasks – The Disability Services policy

The Disability Services policy (accessed within the Policy Library) outlines the principles and processes that guide the College in making reasonable adjustments to Evidence of Learning Tasks for students with disabilities while maintaining academic robustness of its programs.

Risk Assessment Statement

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

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Note: Griffith College acknowledges content derived from Griffith University in Diploma level courses, as applicable.