School of Information and Physical Sciences

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

OVERVIEW

Course Description

This course is Part A of a multi-term sequence. Part B must also be completed to meet the requirements of the sequence.

Through these courses (Part A and Part B), students work on a project related to the fields of computer science and information technology. The work is undertaken in an organisation (industry, research groups, labs) or as an innovative proposal that has been approved by the course coordinator for an entrepreneurial prototype which requires students to incorporate computer science and/or information technology skills into their practices. This direct experience exposes students to the project management practices of managers and/or researchers. Under supervision and in a group work environment, students undertake between 200 and 250 hours of work with an appropriate organisation involved in computer science and/or information technology related areas.

Requisites

Students cannot enrol in this course if they have successfully completed COMP3850.

This course is only available to students enrolled in the
Bachelor of Information Technology [11497],
Bachelor of Information Technology/Bachelor of Business [12238],
Bachelor of Computer Science [40103],
Bachelor of Mathematics/ Bachelor of Computer Science [10253],
Bachelor of Data Science [40276],
Bachelor of Data Science/Bachelor of Mathematics [40277],
Bachelor of Data Science/Bachelor of Computer Science [40278]
programs.

Assumed Knowledge

Successful completion of at least 140 units of study.

Contact Hours

Lecture
Face to Face on Campus
2 hour(s) per Week for 4 Weeks

Workshop
Face to Face on Campus
2 hour(s) per Week for Full Term

Unit Weighting

10

Workload

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

COMP3851A: Computer Science and Information Technology Work Integrated Learning Part A
Callaghan and Ourimbah Semester 1 - 2022

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Multi-Term Sequence Advice	This course is part of a multi-term sequence. Both Part A and Part B must be completed to meet the requirements of the sequence. Part A and Part B must be completed in consecutive terms. Students must complete Part A before completing Part B. Students must complete the sequence within a twelve month period. If students complete Part A but are unable to complete Part B within the timeframe, they must re-enrol in Part A. Part A cannot be completed as a standalone course, it will only count towards your program once you have successfully completed Part B.

CONTACTS

Course Coordinator	**Callaghan and Ourimbah** Dr Alexandre Mendes Alexandre.Mendes@newcastle.edu.au (02) 4921 6172 Consultation: Tuesday, 1PM-3PM, via Zoom
Teaching Staff	Other teaching staff will be advised on the course Canvas site.
School Office	**School of Information and Physical Sciences** SR233, Social Sciences Building Callaghan CESE-SIPS-Admin@newcastle.edu.au +61 2 4921 5515 8:30am – 4:30pm (Tues, Wed, Fri) **School of Information and Physical Sciences** ES222a Engineering Sciences Building Callaghan CESE-SIPS-Admin@newcastle.edu.au +61 2 4921 5515 8:30am – 4:30pm (Mon, Thurs)

SYLLABUS

Course Content	This course comprises activities based on planning, developing, reporting and critically reflecting on a major activity related to computer science and/or information technology. Students will:

1. Apply for, secure and start a project related to Computer Science and/or Information Technology areas, approved by the course coordinator
2. Prepare a 'Program of Activity Agreement' which should be signed by the student, project supervisor and course coordinator
3. Collaborate to plan, carry out and report on an appropriate project
4. Complete at least 100 hours in Part A with an organisation which requires computer science and/or information technology expertise (the total number of hours in Part A and B combined should be between 200 and 250 hours)
5. Record, report and critically reflect on the project undertaken
6. Prepare and deliver a seminar to describe the activities undertaken during the project
7. Describe and analyse ethical and technical issues relating to real world research and practice.

Course Learning Outcomes	**On successful completion of this course, students will be able to:** 1. Analyse and plan the application of a suite of computer science and/or information technology skills learnt in the program to a specific project 2. Critically set objectives and evaluate partial outcomes 3. Develop skills required for the workplace, including both written and verbal communication and teamwork

4. Demonstrate professional knowledge by undertaking computer science and/or information technology tasks

5. Critically reflect on the ethical and technical issues faced in the workplace

Course Materials   **Other Resources:**
          To be provided on Canvas.

ASSESSMENTS

This course has 5 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Project Plan	Week 5	Group	10%	1, 2
2	Written Report	Week 13	Combination	60%	1, 2, 3, 4, 5
3	Seminar	Week 13	Group	15%	1, 2, 3, 4, 5
4	Quizzes	Weeks 1-13	Individual	15%	1, 2, 3, 4, 5
5	Supervisor Report	Week 13	Individual	Formative	1, 2, 3

*This is a formative assessment and will not contribute to your final grade.

Late Submissions   The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Project Plan

Assessment Type   Proposal / Plan
Purpose   To report on the background of the project, aims and future activities of the semester. The goal of this proposal is to answer questions about feasibility of the project and its alignment with the expectations for a 3rd year level Computer Science / Information Technology project. In addition is will expose any skills deficiencies that students might have and how those can be addressed.
Description   This assessment item is to be written together with the supervisor of your project. A template will be provided on Canvas.
Weighting   10%
Due Date   Week 5
Submission Method   Online
          Note that if the deliverables related to the project (including any source code) are not provided to the company (or project supervisor) after requested, and/or not deployed to the client's infrastructure satisfactorily, the student might be given an "I" (Incomplete) grade until those steps are completed.
Assessment Criteria   To be posted on Canvas together with the assessment specifications.
Return Method   Online
Feedback Provided   Online

Assessment 2 - Written Report

Assessment Type   Report
Purpose   To report on the activities undertaken by the student during the semester.
Description   A report on the overall project including the (a) background, (b) aims, (c) methods/design, (d) results, (e) ethical considerations, (f) individual contributions and (g) self-reflection. For group projects, parts (a)-(e) will be written by the group (20%) and parts (f)-(g) will be individual (40%).
Weighting   60%
Due Date   Week 13
Submission Method   Online

	Note that if the deliverables related to the project (including any source code) are not provided to the company (or project supervisor) after requested, and/or not deployed to the client's infrastructure satisfactorily, the student might be given an "I" (Incomplete) grade until those steps are completed.
Assessment Criteria	A marking guide will be provided on Canvas. If the project results are not at the level expected for a 3rd year level project, students might be given an extension (instead of a fail grade), and the resubmission will be capped at 50% of the maximum score.
Return Method	Online
Feedback Provided	Online

Assessment 3 - Seminar

Assessment Type	Presentation
Purpose	To demonstrate organizational and presentation skills by the student.
Description	This task will require individual students and groups to prepare a professional presentation where they will present the results of the project. Each presentation will be between 10 and 30 minutes long, depending on the size of the group.
Weighting	15%
Due Date	Week 13
Submission Method	Specific Location
	For Callaghan students, presentations will be done during the Research Day for Computing. It is a 2-day long event for PhD, Honours and WIL students. The exact date and timetable for the presentations will be communicated at least 1 week before the actual event takes place.
	For Ourimbah students, presentations will be done during the workshop in Week 13.
Assessment Criteria	To be posted on Canvas together with the assessment specifications.
Return Method	Online
Feedback Provided	Online

Assessment 4 - Quizzes

Assessment Type	Report
Purpose	To report on the activities undertaken during the semester.
Description	1) Description of the contributions by each individual towards the project (every fortnight). Those contributions will cover self-learning, organizational/development activities related to the deliverables, and overall responsibilities within the team. Students also need to report on the use of project management tools. (7.5%)
	2) Quizzes and reports on contemporary topics and activities conducted in the workshops (every fortnight). (7.5%)
	3) Meeting minutes for the groups doing the prescribed projects. (Formative)
	4) Updates on group communication and code version control. (Formative)
Weighting	15%
Due Date	Weeks 1-13
Submission Method	Online
Assessment Criteria	To be posted on Canvas together with the assessment specifications.
Return Method	Online
Feedback Provided	Online

Assessment 5 - Supervisor Report

Assessment Type	Report
Purpose	To obtain feedback from the supervisor about the student's performance.
Description	The feedback is related to the characteristics that graduates need to have in order to succeed in the workplace, including technical and soft skills, and professionalism.
Weighting	This is a formative assessment and will not contribute to your final grade.
Due Date	Week 13
Submission Method	Online
	The supervisor will e-mail the feedback directly to the course coordinator.
Assessment Criteria	To be sent to supervisor with the report specifications.

Return Method	Online
Feedback Provided	NA

ADDITIONAL INFORMATION

Grading Scheme	This course is Part A of a multi-term sequence. A grade will be awarded at the completion of Part B.
Communication Methods	Communication methods used in this course include: - Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site. - Email: Students will receive communications via their student email account. - Face to Face: Communication will be provided via face-to-face meetings or supervision.
Course Evaluation	Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.
Oral Interviews	As part of the evaluation process of any assessment item in this course an oral examination may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the Oral Examination Guidelines. In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the Student Conduct Rule.
Academic Misconduct	All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35.
Adverse Circumstances	The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where: 1. the assessment item is a major assessment item; or 2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system; 3. you are requesting a change of placement; or 4. the course has a compulsory attendance requirement. Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at: https://policies.newcastle.edu.au/document/view-current.php?id=236
Important Policy Information	The 'HELP for Students' tab in UONline contains important information that all students should be familiar with, including various systems, policies and procedures.

Graduate Profile Statements – Master of Professional Engineering

The following table illustrates how this course contributes towards building the skills students will need to work in their profession.

Level of capability

- Level 1 indicates an introduction to a topic at a university level
- Levels 2 and 3 indicate progressive reinforcement of that topic
- Level 4 indicates skills commensurate with a graduate – entry to professional practice

- Level 5 indicates highly specialist or professional ability

Graduate attribute	University of Newcastle Master of Professional Engineering Graduate Profile Statements	Taught	Practised	Assessed	Level of capability
1	Comprehensive, theory-based understanding of engineering fundamentals and/or the underpinning natural and physical sciences as applicable to the engineering discipline				
2	Conceptual understanding of the mathematics, numerical analysis, statistics and computer and information sciences which underpin the engineering discipline	X	X	X	**4**
3	In-depth understanding of specialist bodies of knowledge within the engineering discipline	X	X	X	4
4	Discernment of knowledge development and research directions within the engineering discipline				
5	Knowledge of contextual factors impacting the engineering discipline				
6	Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline				
7	Application of established engineering methods to complex engineering problem solving				
8	Fluent application of engineering techniques, tools and resources				
9	Application of systematic engineering synthesis and design processes	X	X	X	4
10	Application of systematic approaches to the conduct and management of engineering projects				
11	Ethical conduct and professional accountability				
12	Effective oral and written communication in professional and lay domains				
13	Creative, innovative and pro-active demeanour				
14	Professional use and management of information				
15	Orderly management of self, and professional conduct				
16	Effective team membership and team leadership				
17	Demonstrated capacity for dealing with uncertain problems using self-direction	X	X	X	4

Graduate attribute	University of Newcastle Information Technology Graduate Profile Statements	Taught	Practised	Assessed	Level of capability
1	Demonstrate a comprehensive understanding of the discipline of information technologies with an emphasis on net-centric applications, information management, and user requirements for ethical professional practice.	X	X	X	3
2	Apply critical reasoning and systems thinking to understand and support the operation and constraints of contemporary enterprises and	X	X	X	3

	their dynamic environment.				
3	Work independently and collaboratively to locate, manage and organise information and resources and apply evidence-based methodologies to create, modify and maintain designs and design solutions.	X	X	X	3
4	Use creativity, problem solving skills, project management skills and technical expertise to analyse, interpret, evaluate and generate solutions to complex technical and organisational problems.	X	X	X	3
5	Demonstrate professional judgement and responsibility by communicating information technology principles, practices, standards to specialist and non-specialist audience clearly and persuasively.	X	X	X	3