WESTERN SYDNEY
UNIVERSITY

School of Computer, Data and Mathematical Sciences

Learning Guide

300579 Professional Experience
Spring 2020

Unit Details

Unit Code:	300579
Unit Name:	Professional Experience
Credit Points:	10
Unit Level:	3
Assumed Knowledge:	Software development methodologies; Software analysis and design modelling tools and techniques; Programming languages; Implementing databases management systems; Software construction and testing.

Note: Students with any problems, concerns or doubts should discuss those with the Unit Coordinator as early as they can.

Unit Coordinator

Name: Jeewani Anupama Ginige
Phone: 9685 9439
Location: ER.1.13 (not available in this office in Spring 2020)
Email: j.ginige@westernsydney.edu.au
Consultation Arrangement:
Please email for a zoom meeting for consultation.

Teaching Team

Name: Various Academic Supervisors
Phone: See project brief
Location: See project brief
Email: See project brief
Consultation Arrangement:
To be organised by students through appointment.

Edition: Spring 2020

Contents

Note: The relevant Learning Guide Companion supplements this document

1 About Professional Experience

1.1 An Introduction to this Unit

Professional Experience is a final year 'capstone' project unit. This unit provides opportunities for students to gain hands-on experience in software systems requirements definition, analysis, design and implementation, in a real-world setting. Students work in groups, guided by an academic supervisor or an industry mentor, in achieving the goals set by the client that provides the project. Suitable projects are sourced from external organisations or within Western Sydney University by way of giving the students professional experience in independent learning and reflective practice.

1.2 What is Expected of You

Study Load

A student is expected to study an hour per credit point a week. For example a 10 credit point unit would require 10 hours of study per week. This time includes the time spent within classes during lectures, tutorials or practicals.

Attendance

Students are strongly encouraged to attend lectures as it will provide critical information about how to carryout the tasks associated with your project.

Online Learning Requirements

Unit materials will be made available on the unit's vUWS (E-Learning) site (https://vuws.westernsydney.edu.au/). You are expected to consult vUWS at least twice a week, as all unit announcements will be made via vUWS. Teaching and learning materials will be regularly updated and posted online by the teaching team.

Special Requirements

Essential Equipment:
Not Applicable
Legislative Pre-Requisites:
Not Applicable

Policies Related to Teaching and Learning
The University has a number of policies that relate to teaching and learning. Important policies affecting students include:

- Assessment Policy
- Bullying Prevention Policy and
- Guidelines
- Enrolment Policy
- Examinations Policy
- Review of Grade Policy
- Sexual Harassment Prevention Policy
- Special Consideration Policy
- Student Misconduct Rule
- Teaching and Learning - Fundamental Code
- Student Code of Conduct

Academic Integrity and Student Misconduct Rule
In submitting assessments, it is essential that you are familiar with the policies listed above and that you understand the principles of academic integrity. You are expected to act honestly and ethically in the production of all academic work and assessment tasks, submit work that is your own and acknowledge any contribution to your work made by others.

Important information about academic integrity, including advice to students is available at https://www.westernsydney.edu.au/studysmart/home/academic_integrity_and_plagiarism. It is your responsibility to familiarise yourself with these principles and apply them to all work submitted to the University as your own.

When you submit an assignment or product, you will declare that no part has been: copied from any other student's work or from any other source except where due acknowledgement is made in the assignment; submitted by you in another (previous or current) assessment, except where appropriately referenced, and with prior permission from the Unit Coordinator; written/produced for you by any other person except where collaboration has been authorised by the Unit Coordinator.

The Student Misconduct Rule applies to all students of Western Sydney University and makes it an offence for any student to engage in academic, research or general misconduct as defined in the Rule.

The University considers plagiarism, cheating and collusion as instances of academic misconduct. The University also considers submitting falsified documentation in support of applications for special consideration, including sitting of deferred examinations, as instances of general misconduct. You should be aware that changes were made to the Student Misconduct Rule commencing 1 January 2020 that provide for minimum sanctions that apply to certain conduct, including the provision of falsified documentation to the University.

You are strongly advised to read the Student Misconduct Rule and the Inappropriate Behaviour Guidelines at the commencement of each session to familiarise yourself with this process and the expectations of the University in relation to work submitted for assessment.

1.3 Changes to Unit as a Result of Past Student Feedback

The University values student feedback in order to improve the quality of its educational programs. The feedback provided helps us improve teaching methods and units of study. The survey results inform unit content and design, learning guides, teaching methods, assessment processes and teaching materials.

You are welcome to provide feedback that is related to the teaching of this unit. At the end of the semester you will be given the opportunity to complete a Student Feedback on Unit (SFU) questionnaire to assess the unit. You may also have the opportunity to complete a Student Feedback on Teaching (SFT) questionnaire to provide feedback for individual teaching staff.

As a result of student feedback, the following changes and improvements to this unit have recently been made:

- Revised assessment tasks, grouping and introduction of individual grades calculation.
- Re-organisation of assessment due dates

2 Assessment Information

2.1 Unit Learning Outcomes

Upon successful completion of this unit, students will be able to:

	Outcome
1	Successfully complete all tasks from Requirements Analysis to Implementation of SDLC in producing a software product or a component of a software product as needed by the client.
2	Produce a full set of professional level documents as needed by the project covering all phases of the SDLC.
3	Integrate skills and knowledge gained from multiple units the student has undertaken in their course to date and also put together knowledge from many and varied sources as required by the project.
4	Discover, investigate and self-learn technologies needed for completion of project activities.
5	Develop skills in foreseeing or predicting probable risks; and plan, organise and control project activities to mitigate such risks.
6	Duly, responsibly and independently complete the assigned tasks, under various constraints and pressure.
7	Reflect back on the learning experience and identify own professional maturity to approach software development problems with a wide understanding of the issues involved and managing software development projects.
8	Present and demonstrate the developed system to a panel of professionals, stakeholders and other interested parties.

2.2 Approach to Learning

Professional Experience is the final year 'capstone' project unit. This unit provides opportunities for students to gain hands-on experience in software systems requirements definition, analysis, design and implementation, in a real-world setting. Students work in groups, guided by an academic supervisor, in achieving the goals set by an industry-based client. Suitable projects are sourced from external organisations or within Western Sydney University by way of giving the students professional experience in independent learning and reflective practice. The overall process of the unit involves: 1. Before Week 0 - The unit coordinator will source the projects in consultation with the industry based clients 2. Week 0 - Students will be grouped and allocated to projects and an academic supervisor. 3. Week 1 - In the week 1 compulsory information session, students will be informed of their group, project, client and academic supervisor. 4. Week 1 to 13 - Students work on the project liaising with the client and academic supervisor 5. Week 14 (or 15) - Final presentations, system demonstration and handover of the project to the client. 6. Week 16 - Final marks calculation

2.3 Contribution to Course Learning Outcomes

3506: Bachelor of Computer Science

Course Learning Outcomes	ULO 1	ULO 2	ULO 3	ULO 4	ULO 5	ULO 6	ULO 7	ULO 8
1. Communicate in a professional manner with others at all levels within and beyond the industry and across discipline, cultural and national boundaries, orally, in writing and through presentations.		Developed					Introduced	Developed
2. Perform work of high quality with an awareness of the professional code of conduct, professional and personal ethics, and the legal and social implications of technological change and professional practice	Assured	Assured			Assured	Assured		Assured
3. Work independently and as a member of a team, including cross-discipline teams, and plan, manage and report on personal and project deliverables	Assured					Assured		
4. Plan, implement and monitor systems to provide appropriate and ongoing quality assurance in respect to all work undertaken		Developed			Developed	Developed		
5. Demonstrate an understanding of a variety of computer systems, their capabilities and limitations		Developed	Developed					

3639: Bachelor of Information and Communications Technology

Course Learning Outcomes	ULO 1	ULO 2	ULO 3	ULO 4	ULO 5	ULO 6	ULO 7	ULO 8
1. Explain the complex networks involved when dealing with people, business and government in the context of ICT development, support and service provision.	Developed	Developed			Developed	Assured	Introduced	
2. Evaluate the technological and software core of ICT theory and practice analysing and designing applications	Developed	Developed	Developed	Developed	Developed		Developed	

3. Apply the knowledge and skills required for the development of new applications and new application areas			Assured	Assured				
4. Innovate by keeping up to date with the rapid development in technology and practice across the ICT domain, as an extension of their current understandings and the ability to find innovative ICT solutions and move the ICT field forward.				Developed			Introduced	
5. Perform work of high quality with an awareness of the professional code of conduct, professional and personal ethics, and the legal and social implications of technological change relating to privacy of information and professional practice.	Assured	Assured			Assured	Assured		Assured

3687: Bachelor of Information Systems

Course Learning Outcomes	ULO 1	ULO 2	ULO 3	ULO 4	ULO 5	ULO 6	ULO 7	ULO 8
1. Communicate in a professional manner with others at all levels within and beyond the industry and across discipline, cultural and national boundaries, orally, in writing and through presentations.		Developed					Introduced	Developed
2. Understand the importance of a strong synergies between people, processes and selected technologies.	Developed	Developed	Developed	Developed	Developed			Developed
3. Research, plan, implement and monitor systems to provide appropriate and ongoing quality assurance in respect to all work undertaken according to current standards in the computing industry.	Developed	Developed	Developed	Developed				
4. Perform work of high quality with an awareness of the professional code of conduct, professional and personal ethics, and the legal and social implications of technological change and professional practice	Assured	Assured			Assured	Assured		Assured

5. Work independently and as a member of a team, including cross-discipline teams, and plan, manage and report on personal and project deliverables	Assured					Assured		
6. Innovate, research and look for new technologies and tools that can assist businesses when implementing cutting edge information systems.				Developed				

2.4 Assessment Summary

The assessment items in this unit are designed to enable you to demonstrate that you have achieved the unit learning outcomes. Completion and submission of all assessment items which have been designated as mandatory or compulsory is essential to receive a passing grade.

To pass this unit you must:

Complete 1 and 2 below:

(1) As a group submit:
- (a) all DOCUMENTATION,
- (b) CODE and relevant DATA of the final system, and
- (c) CLIENT CONFIRMATION form;

(2) Individually:
- (a) submit the final PEER-ASSESSMENT form,
- (b) score a minimum of 50 INDIVIDUAL MARKS** (not a group mark),
- (c) attend at least 80% of all Academic Supervisor, Client and Group MEETINGS; and
- (d) attend the FINAL PRESENTATION.

Failure to comply with ALL of the above requirements will result in a FAIL grade.

** **Students should note that members of the same group may not receive the same grade in this unit, even though 95% of activities are group-based. In this unit, INDIVIDUAL MARKS are calculated using an individual marks calculation tool.** Example use of this tool is given on the vUWS site and this tool will be explained in the week 1 session.

Item	Weight	Due Date	ULOs Assessed	Threshold
System and Project Documentation	35%	(1.1) Project Plan-WEEK 3; (1.2) Project Proposal-WEEK 4; (1.3) Systems Analysis and Design Report-WEEK 8; (1.4) Handover and Completion Report-WEEK 13; (1.5) Diary and Reflections Report-WEEK 14 [~~ALL due by MIDNIGHT of FRIDAY of above weeks~~]	1, 3, 4, 5, 6, 7	No
System Implementation	50%	(2.1) Working Prototype - demonstration to be scheduled by students to be held in WEEK 6; (2.2) Final System due by 5PM of FRIDAY of WEEK 13	1, 3, 4	No
Final Presentation and Promotion Material	15%	(3.1) Final presentation - will be scheduled by the Unit Coordinator to be held in WEEK 14 (or WEEK 15); (3.2) Project Abstract and Video due by MIDNIGHT of FRIDAY of WEEK 14	1, 2, 3, 5, 8	No

Feedback on Assessment

Feedback is an important part of the learning process that can improve your progress towards achieving the learning outcomes. Feedback is any written or spoken response made in relation to academic work such as an assessment task, a performance or product. It can be given to you by a teacher, an external assessor or student peer, and may

be given individually or to a group of students. As a Western Sydney University student, it is your responsibility to seek out and act on feedback that is provided to you as a resource to further your learning.

In this unit, you can organise the method and timeframe in which you want to receive feedback in discussion with your academic supervisor, who would be marking your work. Some academic supervisors may allow you to submit a draft version of the deliverable a week before the due date and receive oral feedback for it so that you can fix any issues before the official due date. Please discuss this arrangement with your supervisor.

2.5 Assessment Details

2.5.1 System and Project Documentation

Weight:	35%
Type of Collaboration:	Both (Individual & Group)
Due:	(1.1) Project Plan-WEEK 3; (1.2) Project Proposal-WEEK 4; (1.3) Systems Analysis and Design Report-WEEK 8; (1.4) Handover and Completion Report-WEEK 13; (1.5) Diary and Reflections Report-WEEK 14 [~~ALL due by MIDNIGHT of FRIDAY of above weeks~~]
Submission:	on vUWS
Format:	- Item 1.1 Project Plan - MS Word File (.docx) - Item 1.2 Project Proposal - MS Word File (.docx) - Item 1.3 Systems Analysis and Design Report - MS Word File (.docx) - Item 1.4 Handover and Completion Report+Client Confirmation Form - Handover report MS Word File (.docx) and the client confirmation is an online form that the clients will have submit on a system. Unit coordinator will organise this. - Item 1.5 Diary and Reflections Report + Peer Assessments- Diary entries to be recorded regularly on the vUWS journal and reflections report to be a MS Work File (.docx) . Peer assessments are online forms and students will be emailed the links to access these forms.
Length:	1.1 Project Plan - Approximately 3,500 words (7-10 pages) (5%) Group submission ** 1.2 Project Proposal - Approximately 3,500 words (7-10 Pages) (5%) Group submission ** 1.3 Systems Analysis & Design Report - Approximately 7,500 words (15-20 Pages) (15%) Group submission ** 1.4 Handover & Completion Report - Approximately 2,500 words (5-7 Pages) (5%) Group submission ** 1.5 Diary and Reflections Report Diary (at least 2 entries per week with each entry of 100-250 words of length). Reflections Report (600 words) 1-2 pages (5%). Individual submission. ** Used as part of the 'groupmark- component' in calculation of Individual Marks in the individual marks calculation tool.
Curriculum Mode:	Report

ITEM 1.1 PROJECT PLAN (5%)

The Project Plan is the first document that lays out all of the activities that need to be completed to achieve the expected outcomes of the project. Therefore, it is important to carefully prepare this document, taking following into consideration:

(a) All work items (initial investigation through to implementation and documentation) that needs to be completed,

(b) Skills and capabilities of individual team members and the team as a whole, and

(c) Time and other resource constraints.

This report should be prepared in conjunction with a planning tool such as a Gantt Chart (prepared using project management software such as MS Project), which should be submitted along with the Project Plan.

Suggested Content:

- Group Details (Skills, Strengths and Weaknesses)
- Work breakdown structure (WBS) (Example in Assessment Guide)
- Project Management related issues and risks (Example in Assessment Guide)
- Milestone plan for the whole group extracted from the detailed Gantt Chart (Example in Assessment Guide)
- Individual task list (planned) (Example in Assessment Guide)
- Planned meetings (Example in Assessment Guide)
  - Client meetings
  - Academic Supervisor/Mentor meetings
  - Team meetings
- Communication that has taken place so far: Meetings (agenda and minutes) (Use the template provided on vUWS), Memos, emails, faxes, phone calls, etc
- Gantt Chart (Example in Assessment Guide)

Please note the above ordering does not suggest the structure of the document. The report should also have an Executive Summary, TOC, Introduction, Conclusion, References and Appendices as needed

ITEM 1.2 PROJECT PROPOSAL (5%)

The project proposal is aimed at assessing the students' ability to recognise high-level project requirements provided by the client and identify possible project solutions.

Suggested Content:

- Client details and Project background
- Problem Statement
- Three Alternative Solutions
  - Solution Description for each
  - Business Case for each
  - Risks of each
- Recommended Solution with justifications
- Ranked High-level Business functions and use cases (Example in Assessment Guide)
- Development Release Schedule (Example in Assessment Guide)

Please note the above ordering does not suggest the structure of the document. The report should also have an Executive Summary, TOC, Introduction, Conclusion, References and Appendices as needed.

ITEM 1.3 SYSTEMS ANALYSIS AND DESIGN REPORT (15%)

After recognising the initial problem statement, student groups are expected to carry out a detailed analysis of the project requirements and design the system. The intentions of preparing the System Analysis and Design Report are to:

- Understand the domain related to the problem in detail and develop an unambiguous vocabulary for communication purposes
- Establish professional, harmonious relationships between the client and the software development team
- Identify business (not technical) advantages of the proposed system
- Prepare initial budget estimates
- Develop a sound business case to justify investment, identify risks and a plan for controlling them
- Unambiguously document the solution designed to resolve the problem
- Provide details (required for coding) of every aspect of the solution (function logic, screen designs, finalised database design, etc.)
- Communicate the design details with the programmers and other parties involved (e.g. testers, client, etc.)
- Devise a test plan for the system

Suggested Content:

- Client Statement
- Problem Statement
- System Requirements (Functional and Non-functional)
- Risks and Constraints (Environmental, Business, Technical, etc.) (Example in Assessment Guide)
    - Design Considerations
    - System Architecture
    - Software Architecture (Example in Assessment Guide)
    - Network and Communication Architecture (Example in Assessment Guide)
- Detailed System Design
    - Use Case Diagram
    - Expanded Use Cases (Example in Assessment Guide)
    - Sequence Diagrams (Example in Assessment Guide)
    - Entity Relationship Diagram (ERD) (Example in Assessment Guide)
    - Database Schema
    - Screen Designs (Example in Assessment Guide)
- Test Plan
    - Features/use cases to be tested (Example in Assessment Guide)
    - Candidate Test Cases/ Test data (Example in Assessment Guide)

∗ *Please note the above ordering does not suggest the structure of the document. The report should also have an Executive Summary, TOC, Introduction, Conclusion, References and Appendices as needed.*

NOTE: Some technical components listed above, may not be valid for some projects due to the nature of the solution (e.g. some mobile applications may not have a DB schema to report). In such situations, students are advised to consult the Academic Supervisor. Your academic supervisor may remove certain items listed above or add new items as appropriate for your project.

ITEM 1.4 HANDOVER AND COMPLETION REPORT (5%) + Client Confirmation Form (no marks)

The main objective of the System Completion and Handover Report is to report any variations to the design, test results, and known issues of the system that is useful for future developments. In addition to the report a client conformation is also required. Client confirmation form will be used (along with a few other components) to calculate the individual marks in this unit. Client confirmation form needs to be filled by the client on a system that manages PX activities. The unit coordinator will organise this with the clients.

Suggested content for the handover report:

- Implemented DB Schema (Example in Assessment Guide)
- Test results (Example in Assessment Guide)
- Variations Report (Example in Assessment Guide)
    - Functional/Use Case design variations
    - Data design variations
    - Screen design variations
- From development and bug fixing point of view outstanding issues
    - Known Bugs
    - Outstanding development work or further improvements

∗ *Please note the above ordering does not suggest the structure of the document. The report should also have an Executive Summary, TOC, Introduction, Conclusion, References and Appendices as needed.*

NOTE: Some technical components listed above, may not be valid for some projects due to the nature of the solution (e.g. some mobile applications may not have a DB schema to report). In such situations, students are advised to consult the Academic Supervisor. Your academic supervisor may remove certain items listed above or add new items as appropriate for your project.

ITEM 1.5 DIARY AND REFLECTIONS REPORT (5%) + Peer Assessment Forms (no marks)

These are the only **individual deliverable** in this unit. This assessment has two parts: Project Diary (2.5%) and Reflections Report (2.5%). The project diary records detailed information about your individual contribution towards the project. Each group member has to maintain an individual project diary on the vUWS journal regularly. The diary entries kept outside vUWS journal will not be marked. It is compulsory to make at least one entry per week in the diary, but students can make as many entries as required (e.g. daily or once every two days). Further, diary entires cannot be entered retrospectively (i.e. for the weeks gone by). The reflections report is a short report that summarises all diary entries and high-light the learning experiences throughout the semester.

At a minimum the Diary and Reflections report should cover the following:

Project Diary

Each entry should cover the following:

- Date and time of the entry
- Meetings attended and the activities assigned to you in these meetings
- Activities that were carried out by you as contributions to the project and time spent on doing these activities
- Any issues and problems that you have to resolve in the coming days
- In your view, how the project is progressing (as of the entry date)

Reflections Report

At the end of the project, based on the diary entries kept and your experience gained by working in the project, each student is expected to write a Reflections Report covering the following:

- In your opinion, a brief description of how the project went
- By carrying out project activities what you have learned
- Things that you could have done differently to achieve a better outcome

PEER ASSESSMENTS

In this unit, confidential peer assessment/s (along with a few other components) will be used for the calculation of individual grades at the end of the semester. In addition to the final confidential peer assessment, the unit coordinator may conduct mid-semester peer assessments to make sure students are progressing well. All peer assessments will be conducted via the PX management system, unless specified otherwise. When peer assessments are due, the unit coordinator will send out emails to all students with links to access the peer assessment forms. Failure to submit the peer assessments forms by the set deadlines could lead to non-submission penalties.

It is important to provide accurate honest feedback in the peer assessments. Students should have enough data to back up the claims that are made in the peer assessments. For example, if a student claims that he/she has done certain sections a report, researched on a topic on behalf of the group, or coding. He/She should have documented evidence to prove this. Please note watching YouTube videos for research purposes would not count, unless there is documented evidence of what was watched and how you have used that knowledge in project work. Such evidence can also be recorded in journal entries.

Initially, the unit coordinator may not ask for evidence to be provided. However, should there be a dispute over 'who-did-what', then all or some group members will be asked to provide evidence to substantiate their claims. Also, please note, providing inaccurate and false information can lead to a misconduct investigation as per to Western Sydney student misconduct rule (https://www.westernsydney.edu.au/about_uws/leadership/governance/student_misconduct_rule).

Resources:

Please refer the Assessment Guide document provided on vUWS for more details

Marking Criteria:

Item 1.1 Project Plan (5%)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Content (0.5%)	Not complete and major improvements are required.	Somewhat complete yet many improvements can be made.	Mostly complete, yet a few improvements can be made.	Almost complete yet minor improvements can be made.	100%complete, no improvements required.
Feasibility and Accuracy (3.5%)	Not accurate and cannot be executed.	Somewhat accurate but plan may not be feasible.	Mostly accurate but plan may have some feasibility issues.	Almost accurate but some minor issues with feasibility.	100% accurate and very feasible plan.
Content Presentation (0.5%)	Does not use appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This does not convey the message sufficiently and improvements are required.	Uses only a few appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message sufficiently, yet many improvements can be made.	Uses some appropriate tools (text, tables, diagrams, charts, etc..) to present the content. This conveys the message adequately, yet a few improvements can be made.	Mostly uses appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message satisfactorily, yet minor improvements can be made.	Uses appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message flawlessly.
Professionalism in documentation (0.5%)	Many errors (grammar, spelling, etc.).	Some errors (grammar, spelling, etc.).	A few errors (grammar, spelling, etc.).	Minor errors (grammar, spelling, etc.).	No errors (grammar, spelling, etc.).

Item 1.2 Project Proposal (5%)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Content (0.5%)	Not complete and major improvements are required.	Somewhat complete yet many improvements can be made.	Mostly complete, yet a few improvements can be made.	Almost complete yet minor improvements can be made.	100% complete, no improvements required.
Feasibility and Accuracy (3.5%)	Not accurate and cannot be executed.	Somewhat accurate but proposal may not be feasible.	Mostly accurate but proposal may have some feasibility issues.	Almost accurate but some minor issues with feasibility.	100% accurate and very feasible proposal.
Content Presentation (0.5%)	Does not use appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This does not convey the message sufficiently and improvements are required.	Uses only a few appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message sufficiently, yet many improvements can be made.	Uses some appropriate tools (text, tables, diagrams, charts, etc..) to present the content. This conveys the message adequately, yet a few improvements can be made.	Uses some appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message satisfactorily, yet minor improvements can be made.	Uses appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message flawlessly.
Professionalism in documentation (0.5%)	Many errors (grammar, spelling, etc.).	Some errors (grammar, spelling, etc.).	A few errors (grammar, spelling, etc.).	Minor errors (grammar, spelling, etc.).	No errors (grammar, spelling, etc.).

Item 1.3 Systems Analysis & Design Report (15%)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Content (2%)	Not complete and major improvements are required.	Somewhat complete yet many improvements can be done.	Mostly complete, yet a few improvements can be done.	Almost complete yet minor improvements can be done.	100%complete, no improvements required.

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Feasibility and Accuracy (10%)	Not accurate and cannot be executed.	Somewhat accurate but design may not be feasible.	Mostly accurate but design may have some feasibility issues.	Almost accurate but some minor issues with feasibility.	100% accurate and very feasible design.
Content Presentation (1.5%)	Does not use appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This does not convey the message sufficiently and improvements are required.	Uses only a few appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message sufficiently, yet many improvements can be done.	Uses some appropriate tools (text, tables, diagrams, charts, etc..) to present the content. This conveys the message adequately, yet a few improvements can be done.	Uses some appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message satisfactorily, yet minor improvements can be done.	Uses appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message flawlessly.
Professionalism in documentation (1.5%)	Many errors (grammar, spelling, etc.).	Some errors (grammar, spelling, etc.).	A few errors (grammar, spelling, etc.).	Minor errors (grammar, spelling, etc.).	No errors (grammar, spelling, etc.).

Item 1.4 Handover & Completion Report (5%) + Client Confirmation Form (no marks)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Content (0.5%)	Not complete and major improvements are required.	Somewhat complete yet many improvements can be done.	Mostly complete, yet a few improvements can be done.	Almost complete yet minor improvements can be done.	100% complete, no improvements required.
Accuracy (3.5%)	Not accurate and there are major issues.	Somewhat accurate but some improvements can be done.	Mostly accurate but a few improvements can be done.	Almost accurate minor improvements can be done.	100% accurate and no improvements required.
Content Presentation (0.5%)	Does not use appropriate tools (text, tables, diagrams,charts, etc..) to present the content.This does not convey the message sufficiently and improvements are required.	Uses only a few appropriate tools (text, tables, diagrams,charts, etc..) to present the content.This conveys the message sufficiently, yet many improvements can be done.	Uses some appropriate tools (text, tables, diagrams,charts, etc..) to present the content. This conveys the message adequately, yet a few improvements can be done.	Uses some appropriate tools (text, tables, diagrams,charts, etc..) to present the content.This conveys the message satisfactorily, yet minor improvements can be done.	Uses appropriate tools (text, tables, diagrams,charts, etc..) to present the content.This conveys the message flawlessly.
Professionalism in documentation (0.5%)	Many errors (grammar, spelling, etc.).	Some errors (grammar, spelling, etc.).	A few errors (grammar, spelling, etc.).	Minor errors (grammar, spelling, etc.).	No errors (grammar, spelling, etc.).

Item 1.5. Diary and Reflections Report (5%) + Confidential Peer Assessment Form (no marks)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Content (4%)	Not complete and major improvements are required.	Somewhat complete yet many improvements can be done.	Mostly complete, yet a few improvements can be done.	Almost complete yet minor improvements can be done.	100%complete, no improvements required.
Accuracy (1%)	Not accurate and there are major issues on how things are reported.	Somewhat accurate but some improvements can be done on things that are reported.	Mostly accurate but a few improvements can be done on how things are reported.	Almost accurate minor improvements can be done on how things are reported.	100% accurate and no improvements required.

2.5.2 System Implementation

Weight:	50%
Type of Collaboration:	Both (Individual & Group)
Due:	(2.1) Working Prototype - demonstration to be scheduled by students to be held in WEEK 6; (2.2) Final System due by 5PM of FRIDAY of WEEK 13
Submission:	(1) Item 2.1 Working Prototype- Demonstrate in person to both client and supervisor AND zip file to be submitted on vUWS; (2) Item 2.2 Final System - Zip file/s to be submitted to vUWS AND 2 copies of USBs be given to the Academic Supervisor and Client
Format:	- Item 2.1 Working Prototype- This Working Prototype should encapsulate the so-far-understood requirements into an evolutionary prototype. It could include (but not limited to) (a) wireframes that show schematics of main UIs, Forms, System Reports, (b) storyboard that shows the linkage between various interfaces, and (c) any data models that may support the prototype. All files created for the prototype to be zipped and to be submitted on vUWS. - Item 2.2 Final System - This is the final system that addresses all user requirements, fully functional and installed in an appropriate server environment. The system should have the installable version of the software, all source code and initial data (reference data). Further, any test data should be removed from the system. Zip file to be submitted on vUWS, plus copied to be handed over to the client and supervisor.
Length:	2.1 Working Prototype - Demonstrable working prototype that gives the client an idea how the end product would look like (Full functionality is not required) (10%) Group submission **; 2.2 Completed Final System - Fully functional system, with appropriate base data (where required), that meets all system requirements identified. (40%) Group submission **; ** Used as part of the 'group-mark-component' in calculation of Individual Marks in the individual marks calculation tool.
Curriculum Mode:	Professional Task

ITEM 2.1 WORKING PROTOTYPE (10%)

This working prototype should capture so-far-understood user requirements into an incomplete version of the end product. The objective of creating the prototype is to show your understanding of the system to the client. This will provide an opportunity for the client to provide very valuable feedback that fine tune the Systems Analysis and Design report.

Students are advised to create and evolutionary prototype that can be further changed and enhanced into the final product. It should include (a) wireframes that show schematics of main UIs, Forms, System Reports, (b) storyboard that shows the linkage between various interfaces, and (c) any data models that may support the prototype.

Feedback received for the prototype should be carefully documented and addressed in the final implementation of the system. If certain features are unable to be implemented, it needs to be resolved prior to submission of Systems Analysis and Design report.

ITEM 2.2 FINAL SYSTEM IMPLEMENTATION (40%)

The following must be achieved in the final implementation of the system:

- Completion of ALL identified functional requirements (as identified in the Analysis and Design report or in variation report)
- Implementation of ALL identified non-functional requirements (e.g. security, privacy, etc. and also as identified in the Analysis and Design report or in variation report)

- Completion of agreed interface designs (use of colours, fonts, images, layout, menu systems, etc.)
- Incorporation of appropriate data storing and retrieval mechanisms (use of suitable data storing mechanism, use of stored procedures to access data, etc.)
- Implementation of an appropriate navigation system (i.e. logical and easy to find things on the system)
- User-friendly system (i.e. easy to use forms and other data entry mechanisms, help and tips provided appropriately, tabular reports with sorting features, etc.)
- High-quality coding style
- Consistency and usage of standards in coding; and Use of internal documentation and comments
- Re-usability of code (e.g. Proper usage of Functions or Classes and Objects)

The following needs to be completed prior to submission.

- Demonstrate in person to both client and academic supervisor (does not require to be at the same time).
- Implement the system in the server environment as agreed with the client.
- Demonstrate the system during the final presentation (details can be found in the next assessment task). Please note system should be demonstrated in the server environment, not in the development environment. For example demonstrating the system in MS Visual Studio or similar IDE is not acceptable.

Create a Zip file containing the following:

- ALL the final system files (e.g. source code, scripts, config files, template files, etc.)
- Database with relevant data (e.g. reference data)
- The following documentation
    - project proposal
    - project plan
    - systems analysis and design report
    - completion and handover report

Submit the zip file on vUWS. If the Zip file is more than 100 MB, multiple files can be submitted. Copy the Zip file/s into two (2) USBs. Hand-in one UBS to your client and the other one to your supervisor (do not forget to keep a copy for each one of the group members).

Resources:

See instructions.

Marking Criteria:

Item 2.1 Working Prototype (10%)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Design concepts of the final system (5%)	Does not give any idea about the design concepts or what the final system will look like.	Demonstrate design concepts in a minimally and the client is able to a little idea of how the final system is going to look like.	Demonstrate design concepts in a sufficiently and the client is able to some idea of how the final system is going to look like.	Demonstrates design concepts in a good way and the client is able to get a good idea of what the final system is going to look like.	Demonstrates design concepts in an excellent manner and the client is able to get a good understanding of what the final system is going to look like.
User interaction concepts of the final system (3%)	Does not give any idea of the user interaction that will be developed in the final system.	Gives a little idea of the user interaction that will be developed in the final system.	Gives some idea of the user interaction that will be developed in the final system.	Gives a good idea of the user interaction that will be developed in the final system.	Gives an excellent understanding of the user interaction that will be developed in the final system.
Functional concepts of the final system (2%)	Have not captured any of the main features required in the final system.	Have captured only a few of the main features required in the final system.	Have captured some of the main features required in the final system though not fully functional.	Have captured most of the main features required in the final system though not fully functional.	Have captured all of the main features required in the final system though not fully functional.

Item 2.2 Final System Implementation (40%)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Implementation of Requirements (20%)	Less than 50% of the identified functional and non- functional requirements are implemented.	60% of the identified functional and non-functional requirements are implemented.	70% of the identified functional and non-functional requirements are implemented.	90% of the identified functional and non-functional requirements are implemented.	100% of the identified functional and non-functional requirements are implemented.
User Friendliness (3%)	As a whole the system is not user-friendly or intuitive to users; major improvements are required.	Some parts of the system are user-friendly and intuitive to users; significant improvements can be made.	Some parts of the system are user-friendly and intuitive to users; a few improvements can be made.	Most of the system is user-friendly and intuitive to users; minor improvements can be made.	Full system is user-friendly and intuitive to users.
Interface Designs (5%)	No logical and intuitive design and layout with the right type of data capturing mechanisms (e.g. input devices such as text boxes, drop-down lists, etc.), major improvements are required.	Some logical and intuitive design and layout with the right type of data capturing mechanisms (e.g. input devices such as text boxes, drop-down lists, etc.), but many improvements can be made.	Mostly logical and intuitive design and layout with the right type of data capturing mechanisms (e.g. input devices such as text boxes, drop-down lists, etc.), but a few improvements can be made.	Almost logical and intuitive design and layout with the right type of data capturing mechanisms (e.g. input devices such as text boxes, drop-down lists, etc.), but minor improvements can be made.	Fully logical and intuitive design and layout with the right type of data capturing mechanisms (e.g. input devices such as text boxes, drop-down lists, etc.) no improvements required.
Performance (2%)	Level of performance is not acceptable.	Reasonable level of performance in some aspects, but improvements can be made.	Reasonable level of performance in all aspects.	Good level of performance in all aspects.	Very high level of performance in all aspects.
Completion of the Implementation Phase (10%)	Implementation is not completed and the client cannot use the system.	Implementation is completed, but major changes are needed for the client to be able to use the system.	Implementation is completed, but some tweaking is needed for the client to be able to use the system.	Implementation is completed, yet minor tweaking is needed for the client to be able to use the system.	Implementation is 100% completed and the client is able to use the system.

2.5.3 Final Presentation and Promotion Material

Weight:	15%
Type of Collaboration:	Group
Due:	(3.1) Final presentation - will be scheduled by the Unit Coordinator to be held in WEEK 14 (or WEEK 15); (3.2) Project Abstract and Video due by MIDNIGHT of FRIDAY of WEEK 14
Submission:	(1) Item 3.1 - Final presentation - Group Presentation in Person; (2) Item 3.1 - Project Abstract and Video - Submission on vUWS
Format:	Item 3.1 Final Presentation - PPT and the Systems Demonstration to a panel of academics. Total presentation time 25 mins. Item 3.2 Abstract & Video - Project Abstract - 400 words (Strictly 1 page) MS Word File (.docx) AND Video (3-4 mins. max) recorded using a mobile device (or similar) and submitted in commonly used formats such as .avi, .mov, .wmv, or .mp4. Zip file to be submitted
Length:	3.1 Final Presentation - (25 minutes) (10%) Group Presentation $**$; 3.2 Abstract & Video - Project Abstract 400 words (1 page) AND Video- (5-8 minutes) (5%) Group submission $**$
Curriculum Mode:	Presentation

ITEM 3.1 FINAL PRESENTATION (10%)

You are required to cover the following in the presentation:

- Introduction to
  - the group
  - the client
- Project Background (problem definition/ scope of your work)
- Technology considerations
- Details of the Solutions (maximum of a slide or two for each of the following)
  - Data Design
  - Interface Design
  - Overall System Architecture
- Further work needed and/or outstanding issues
- **System Demonstration:** At least 10 minutes should be spent in demonstrating the MAJOR functionalities of the system. In other words, too much time should not be spent in demonstrating trivial things, such as the login system.

ITEM 3.1 PROJECT ABSTRACT AND VIDEO (5%)

Project Abstract

One Page (word document) should cover the following:

- Problem
- Solution Description in Brief
- Technologies used
- Client Details
- Group Members with a group photo (high-quality file can also be submitted separately to Word file)
- 1-2 (max) screen shots of the system (high-quality file can also be submitted separately to Word file)

Video:

The video should demonstrate the functionality of solution and provide an opportunity for the group to explain the features as they are presented. The emphasis of the video should be on the solution itself. Video production quality will not be used in marking. Your Team should show the system in action rather than explaining it. You may include your client in the video if required as appropriate.

Resources:

See Instructions

Marking Criteria:

Item 3.1 Final Presentation (10%)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Delivery of the Content (2%)	Details on problem, solution and technical aspects of the project are not adequately covered.	Details on problem, solution and technical aspects of the project are covered giving the audience some idea of the project.	Details on problem, solution and technical aspects of the project are covered giving audience reasonable idea of the project.	Details on problem, solution and technical aspects of the project are covered giving the audience a good idea of the project.	Details on problem, solution and technical aspects of the project are covered giving the audience a clear understanding of the project.
Software Demonstration (4%)	Does not demonstrate the major functionalities or give any idea to the audience how the system works.	Demonstrates the major functionalities of the system with scenarios that give some idea to the audience of how the system works.	Demonstrates the major functionalities of the system with some scenarios that give an idea to the audience of how the system works.	Demonstrates the major functionalities of the system with scenarios that give a good idea to the audience of how the system works.	Demonstrates the major functionalities of the system with good scenarios that give an excellent understanding of the audience of how the system works.
Organisation and Quality (2%)	Not well organised as a group and material used is not at an acceptable level.	Somewhat organised as a group and some good material used.	Organised as a group and good material used.	Well organised as a group and reasonably professional level material used.	Very well organised as a group and very professional level material used.
Clarity of the communication (2%)	Communication is not at an acceptable level, e.g. mainly reads from slides or cue cards.	Acceptable level communication with use of cue cards, etc.	Good level of communication with some use of cue cards, etc.	Professional level of communication with little use of cue cards, etc.	Professional level of communication with no (or minimum) use of cue cards, etc.

Item 3.2 2. Project Abstract and Video (5%)

Criteria	Unsatisfactory	Pass	Credit	Distinction	High Distinction
Content (1%)	Not complete and major improvements are required.	Somewhat complete yet many improvements can be made.	Mostly complete, yet a few improvements can be made.	Almost complete yet minor improvements can be made.	100% complete, no improvements required.
Accuracy (1%)	Not accurate and there are major issues.	Somewhat accurate but some improvements can be made.	Mostly accurate but a few improvements can be made.	Almost accurate, minor improvements can be made.	100% accurate and no improvements required.
Content Presentation (2%)	Does not use appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This does not convey the message sufficiently and improvements are required.	Uses only a few appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message sufficiently, yet many improvements can be done.	Uses some appropriate tools (text, tables, diagrams, charts, etc..) to present the content. This conveys the message adequately, yet a few improvements can be done.	Uses some appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message satisfactorily, yet minor improvements can be done.	Uses appropriate tools (text, tables, diagrams, charts, etc..) to present the content.This conveys the message flawlessly.
Professionalism (1%)	Many errors (grammar, spelling, etc.).	Some errors (grammar, spelling, etc.).	A few errors (grammar, spelling, etc.).	Minor errors (grammar, spelling, etc.).	No errors (grammar, spelling, etc.).

2.6 General Submission Requirements

Submission

- All assignments must be submitted by the specified due date and time.
- Complete your assignment and follow the individual assessment item instructions on how to submit. You must keep a copy of all assignments submitted for marking.

Turnitin

- The Turnitin plagiarism prevention system may be used within this unit. Turnitin is accessed via logging into vUWS for the unit. If Turnitin is being used with this unit, this means that your assignments have to be submitted through the Turnitin system. Turnitin from iParadigms is a web-based text-matching software that identifies and reports on similarities between documents. It is also widely utilised as a tool to improve academic writing skills. Turnitin compares electronically submitted papers against the following:
  - Current and archived web: Turnitin currently contains over 24 billion web pages including archived pages
  - Student papers: including Western Sydney University student submissions since 2007
  - Scholarly literature: Turnitin has partnered with leading content publishers, including library databases, text-book publishers, digital reference collections and subscription-based publications (e.g. Gale, Proquest, Emerald and Sage)

- Turnitin is used by over 30 universities in Australia and is increasingly seen as an industry standard. It is an important tool to assist students with their academic writing by promoting awareness of plagiarism.By submitting your assignment to Turnitin you will be certifying that:
  - I hold a copy of this assignment if the original is lost or damaged
  - No part of this assignment has been copied from any other student's work or from any other source except where due acknowledgement is made in the assignment
  - No part of the assignment has been written for me by any other person/s
  - I have complied with the specified word length for this assignment
  - I am aware that this work may be reproduced and submitted to plagiarism detection software programs for the purpose of detecting possible plagiarism (which may retain a copy on its database for future plagiarism checking).

Self-Plagiarising

- You are to ensure that no part of any submitted assignment for this unit or product has been submitted by yourself in another (previous or current) assessment from any unit, except where appropriately referenced, and with prior permission from the Lecturer/Tutor/Unit Co-ordinator of this unit.

Late Submission

- If you submit a late assessment, without receiving approval for an extension of time, (see next item), you will be penalised by 10% per day for up to 10 days. In other words, marks equal to 10% of the assignment's weight will be deducted from the mark awarded.
- For example, if the highest mark possible is 50, 5 marks will be deducted from your awarded mark for each late day.
- Saturday and Sunday are counted as one calendar day each.
- Assessments will not be accepted after the marked assessment task has been returned to students.
- This is consistent with Clause 51 of the Western Sydney University's Assessment Policy - Criteria and Standards-Based Assessment.

Extension of Due Date for Submission

Extensions are only granted in exceptional circumstances. To apply for an extension of time, locate an application form via the Western Sydney University homepage or copy the following link:
https://www.westernsydney.edu.au/currentstudents/current_students/forms

Application forms must be submitted to the Unit Coordinator/Convenor. Requests for extension should be made as early as possible and submitted within policy deadlines. Appropriate, supporting documentation must be submitted with the application. An application for an extension does not automatically mean that an extension will be granted. Assessments will not be accepted after the marked assessment task has been returned to students.

Resubmission

Resubmission of assessment items will not normally be granted if requested.

Application for Special Consideration

It is strongly recommended that you attend all scheduled learning activities to support your learning. If you have suffered misadventure, illness, or you have experienced exceptional circumstances that have prevented your attendance at class or your completion and submission of assessment tasks, you may need to apply for Special Consideration via the Western Sydney University website. http://www.westernsydney.edu.au/currentstudents/current_students/services_and_facilities/special_consideration2 or the Student Centre/Sydney City Campus Reception. Special Consideration is not automatically granted. It is your responsibility to ensure that any missed content has been covered. Your lecturer will give you more information on how this must be done.

3 Teaching and Learning Activities

Weeks	Lecture	Instructions	Assessments Due
Week 1 20-07-2020	1st INFORMATION SESSION takes place via ZOOM as per to the timetable. ALL students MUST attend this. Zoom meeting details will be provided via the vUWS site.		
Week 2 27-07-2020			
Week 3 03-08-2020		- Item 1.1 PROJECT PLAN due by MIDNIGHT of FRIDAY - Submit on vUWS	- System and Project Documentation
Week 4 10-08-2020		Item 1.2 PROJECT PROPOSAL due by MIDNIGHT of FRIDAY - Submit on vUWS	- System and Project Documentation
Week 5 17-08-2020			
Week 6 24-08-2020		Item 2.1 WORKING PROTOTYPE needs to be demonstrated to your supervisor and client in this week. Submit the Zip file on vUWS.	- System Implementation
Week 7 31-08-2020			
Week 8 07-09-2020		- Item 1.3 SYSTEMS ANALYSIS & DESIGN REPORT due by MIDNIGHT of FRIDAY - Submit on vUWS	- System and Project Documentation
Week 9 14-09-2020			
Week 10 21-09-2020	2nd INFORMATION SESSION takes place via ZOOM as per to the timetable. ALL students MUST attend this. ZOOM meeting details will be provided via the vUWS site.		
Week 11 28-09-2020		MID SEMESTER BREAK	
Week 12 05-10-2020			

Weeks	Lecture	Instructions	Assessments Due
Week 13 12-10-2020		- Item 1.4 HANDOVER & COMPLETION REPORT due by MIDNIGHT of FRIDAY on vUWS - Item 2.2 FINAL SYSTEM due by 5PM of FRIDAY. Zip file to be submitted on vUWs and two USB copies to be created. One UBS to be given to your SUPERVISOR and the other copy to your CLIENT.	- System and Project Documentation - System Implementation
Week 14 19-10-2020	Final Presentations	- Item 1.5 DIARY AND REFLECTIONS REPORT due by MIDNIGHT of FRIDAY on vUWS - Item 3.1 FINAL PRESENTATION to a panel of academics. No submission required. Presentation times will be informed in week 12. - Item 3.2 PROJECT ABSTRACT & VIDEO due by MIDNIGHT of FRIDAY on vUWS. Abstract and video to be submitted on vUWS.	- System and Project Documentation - Final Presentation and Promotion Material
Week 15 26-10-2020	**PLEASE KEEP THIS WEEK FREE ... FINAL PRESENTATIONS MAY TAKE PLACE IN THIS WEEK**	Item 3.1 FINAL PRESENTATION to a panel of academics. No submission required. Presentation times will be informed in week 12.	- Final Presentation and Promotion Material
Week 16 02-11-2020			
Week 17 09-11-2020			

The above timetable should be used as a guide only, as it is subject to change. Students will be advised of any changes as they become known on the unit's vUWS site.

4 Learning Resources

4.1 Recommended Readings

Additional Reading

Ahmed, R., & Boutaba , R. (2014). *Collaborative Web Hosting Challenges and Research Directions*. Cham: Springer.

Baxter, K., Courage, C., & Caine, K. (2015). *Understanding your users: a practical guide to user research methods* (2nd ed.). Waltham, MA: Morgan Kaufmann.

Benyon, D. (2014). *Spaces of interaction, places for experience.* San Rafael, California: Morgan & Claypool Publishers.

Bhowmik, A. K. (2014). *Interactive Displays Natural Human-Interface Technologies.* Somerset: Wiley.

Castano, V., & Schagaev, I. (2015). *Resilient Computer System Design.* Cham: Springer International Publishing.

Chell, D., Erasmus, T., Colley, S., & Whitehouse, O. (2015). *The Mobile Application Hacker's Handbook.* Indianapolis, Ind.: Wiley.

Chemuturi, M. a. (2013). *Mastering IT project management: best practices, tools, and techniques.* Plantation, Florida: J. Ross Publishing.

Curry, J. M., & Stanford, P. (2005). *Practical systems development: A project-based approach.* Sydney, Australia: Pearson Education.

Dennis, A., Wixom, B. H., & Roth, R. M. (2012). *System Analysis and Design, Fifth Edition.* Hoboken, NJ: John Wiley & Sons.

Foster, E., & Godbole, S. (2014). *Database Systems A Pragmatic Approach.* Berkeley, CA: Apress.

Hughes, B., Ireland, R., West, B., Smith, N., & Shepherd, D. I. (2012). *Project Management for IT-Related Projects* (2nd ed.). Swindon: BCS Learning & Development Limited.

Hughes, D. L., Dwivedi, Y. K., Simintiras, A. C., & Rana, N. P. (2015). *Success and Failure of IS/IT Projects A State of the Art Analysis and Future Directions.* Cham: Springer International Publishing.

Jarman, K. H. (2015). *Beyond Basic Statistics Tips, Tricks, and Techniques Every Data Analyst Should Know.* Hoboken: Wiley.

Kim, J. (2015). *Design for Experience Where Technology Meets Design and Strategy.* Cham: Springer International Publishing.

Kuster, J., Huber, E., Lippmann, R., Schmid, A., Schneider, E., Witschi, U., & Wust, R. (2015). *Project Management Handbook.* Berlin, Heidelberg: Springer.

Lock, D. (2013). *Project management* (10th ed.). Burlington, VT: Gower.

Marquardt, N., & Greenberg, S. (2015). *Proxemic Interactions From Theory to Practice.* San Rafael: Morgan & Claypool Publishers.

McWherter, J. C. (2012). *Professional mobile application development.* Indianapolis, Ind.: John Wiley & Sons.

Note, M. (2015). *Project Management for Information Professionals.* Kent: Elsevier Science.

Oinas-Kukkonen, H., & Oinas-Kukkonen, H. (Eds.). (2013). *Humanizing the web change and social innovation.*

Basingstoke: Palgrave Macmillan.

Panhale, M. (2015). *Beginning Hybrid Mobile Application Development.* Berkeley, CA: Apress.

Rodger, R. (2012). *Beginning mobile application development in the cloud.* Indianapolis, Ind.: Wiley

Thalheim, B., Schewe, K.-D., & Prinz, A. (2015). *Correct Software in Web Applications and Web Services.* AG Switzerland: Springer International Publishing.

Tominski, C. (2015). *Interaction for Visualization.* San Rafael, California: Morgan & Claypool Publishers.

Wellens, P. (2015). *Practical Web Development.* Birmingham, UK: Packt Publishing.

Wills, K. R. (2015). *Assessing IT projects to ensure successful outcomes.* Ely, Cambridgeshire, UK: IT Governance Publishing.