THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number - ACS-2913-001
Course Name – Introduction to Information Systems

Instructor Information

Instructor: **David Tenjo** **Office:** 3D18
E-mail: **d.tenjo@uwinnipeg.ca** **Office Hours**: Friday 12:00 pm - 1:00 p.m.
or by email appointment

Class Meeting Time: M/W 4:00 PM - 5:15 PM **Room No:** 3D01
Course Web Page: https://courses.acs.uwinnipeg.ca/2913-001

Important Dates

First Class:	Sep 5th, 2018
Reading Week (no classes)	Oct 7th – Oct 13th, 2018
Midterm Exam:	Oct 22nd, 2018
Final Withdrawal Date w/o academic penalty:	Nov 12th, 2018

(A minimum of 20% of the work on which the final grade is based will be evaluated and available to the student before the voluntary withdrawal date)

Last Class:	Dec 3rd, 2018
Final Exam:	Dec 12, 2018

Course Objectives/Learning Outcomes

Objectives:
This course is intended to introduce students to the requirements definition and design specification phases of software development. It aims to provide coverage of object-oriented approaches to requirements analysis and design of software in various applications. Models, notations and processes for requirements elicitation, representation, and design are treated in depth.

The specific objectives of this course are:

- To convey a thorough understanding of the requirements definition phase of software

development
- To instill in students appreciation of the object-oriented approach to requirements analysis and design, and its current documentation tools.
- To provide a solid foundation for the application of techniques used in software requirements *gathering, modelling and design*

Outcomes:
- To understand the different phases of a typical project using SDLC under an Agile approach
- To be able to apply specific techniques to gather software requirements
- To be able to create use case diagrams / descriptions and activity diagrams used in modelling software requirements
- To be able to create class diagrams
- To be able to create sequence diagrams
- To understand communication (Collaboration) diagrams
- To understand basic Object oriented concepts and terminology
- To be able to model class packages

Evaluation Criteria

1. **Assignments (20%)**
   - Assignment 1 due Oct 1, 2018
   - Assignment 2 due Oct 29, 2018
   - Assignment 3 due Nov 12, 2018
   - Assignment 4 due Nov 28, 2018

   All assignments due before the beginning of class. As a rule, late assignments will not be accepted, unless documented extenuating circumstances, such as a medical situation, prevented the timely completion of the work.
2. **Midterm Exam** (**25%**) – *Oct 17, 2018*
   - Missed exam will receive a mark of zero, unless a medical certificate is provided, no accommodation is made for missed exams.
3. **Final Exam (55%)** - *Dec 12th, 2018*

Please contact the instructor as soon as possible if extenuating circumstances require you to miss a class, assignment, test or examination.

Keep a copy of all class work handed back in case there is an error in recording of marks by the instructor.

With regard to appeals, see Section 10 of the Regulations & Policies Document in the 2015-2016 Course Calendar **(http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf).**

Exam Requirements

- Photo ID at exam is required.
- You are expected to write the test/exam on its given day.
- No electronic devices (e.g. cell/smart phone, laptop, scientific calculators, translators, etc.) are permitted.
- Midterm and final exams are closed-book.
- Unless a medical certificate is provided, no accommodation is made for missed exams.

Final Letter Grade Assignment

Historically, numerical percentages have been converted to letter grades using the following scale. However, instructors can deviate from these values based on pedagogical nuances of a particular class, and final grades are subject to approval by the Department Review Committee.

A+	90+ - 100%	B+	75 - 79%	C	60 - 64%
A	85 - 90%	B	70 - 74%	D	50 - 59%
A-	80 - 84%	C+	65 - 69%	F	below 50%

Prerequisite and Restriction Information*

(This information can be found in the UW Undergraduate Academic Calendar)

- A grade of at least C in ACS-1903 or ACS-1905

Email Communication

Emails from accounts at uwinnipeg.ca are usually not filtered by the UofW email filter. Thereby it is recommended electronic communication used for the course utilize a UofW email account to minimize the risk of filtering. Please include "ACS 2913-001" on the subject line of all of your emails. Respectul communication is always expected.

Services for Students

Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams (e.g., private space) or during lectures/laboratories (e.g., note-takers) are encouraged to contact Accessibility Services (AS) at 786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential http://www.uwinnipeg.ca/accessibility.

Students may choose not to attend classes or write examinations on holy days of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide opportunity for students to make up work examinations without penalty. A list of religious holidays can be found in the 2018-19 Undergraduate Academic Calendar.

All students, faculty and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found online at www.uwinnipeg.ca/respect .

Misuse of Computer Facilities, Plagiarism, and Cheating

Academic dishonesty is a very serious offense and will be dealt with in accordance with the University's policies. Be sure that you have read and understood Regulations & Policies #8, in the 2018-2019 UW Undergraduate Academic Calendar available at http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf and the UW academic misconduct policy available at http://pace.uwinnipegcourses.ca/sites/default/files/pdfs/publications/Academic%20Misconduct%20Policy.pdf

Avoiding Academic Misconduct. Uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) involves "aiding and abetting" plagiarism. Students who do this can be charged with Academic Misconduct.

Avoiding Copyright Violation. Course materials are owned by the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides. Students who upload these materials to filesharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor /presenter before photographing or recording slides, presentations, lectures, and notes on the board.

Additional information is available at University of Winnipeg library video tutorial "Avoiding Plagiarism" https://www.youtube.com/watch?v=UvFdxRU9a8g

Text Book(s) / Reading List / Tools

We will use the following book as guide, supplemented with readings throughout the course:

Systems Analysis and Design in a Changing World, (7th Edition). John Satzinger, Robert Jackson, Stephen Burd - Cengage Learning ISBN 978-1-305-11720-4

- Complementary Readings might be posted to the course website.

Topics to be covered (Tentative)

1. **Overview of Systems Analysis and Design**
   a. Systems Development Lifecycle
   b. Iterative Development
   c. Core process of systems development

2. **System Requirements**

a. Definition
b. Models and Modelling
c. Information gathering techniques
d. Workflows and activity diagrams

3. **Use Case Analysis**
   a. Use Cases and user Goals
   b. Event Decomposition
   c. CRUD Technique

4. **Domain Modelling**
   a. Entity-Relationship Diagrams
   b. Domain-Model Class diagram

5. **Extended Requirements Modelling**
   a. System Sequence Diagram
   b. State Machine Diagram
   c. Integrating Requirements Models

6. **Object-Oriented design and Principles**
   a. Object-Oriented Architectural Design
   b. Principles of Object-oriented design
   c. Design classes
   d. Class diagrams
   e. CRC Cards

7. **Advanced OO Concepts**
   a. Three Layer Design
   b. Design Patterns
   c. Sequence Diagrams
   d. Communication Diagrams
   e. Packages

Note that all topics listed may not be covered and may be offered in a slightly different time order.

Additional Course Related Information

1. When it is necessary to cancel a class due to exceptional circumstances, instructors will make every effort to inform students via uwinnipeg email (and/or using the preferred form of communication, as designated in this outline), as well as the Departmental Assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms

2. Students are reminded that they have a responsibility to regularly check their uwinnipeg e-mail addresses (and/or using the preferred form of communication, as designated in this

outline) to ensure timely receipt of correspondence from the university and/or their course instructors

3. Please note that withdrawing before the VW date does not necessarily result in a fee refund (November 12 is VW date for classes that begin in September and end in December).

4. No make-up classes scheduled

5. No classes:
   October 8, 2018 Thanksgiving
   October 7-13, 2018 Mid-term reading week
   November 11, 2018 Remembrance Day
   Dec 22/18-Jan 2/19 University closed