



# THE UNIVERSITY OF WINNIPEG

## APPLIED COMPUTER SCIENCE

**Course Number: ACS-2821-001**

**Course Name: Information Security in Business**

### **Instructor Information**

**Instructor: Philemon Pak**

**E-mail: p.pak@uwinnipeg.ca**

**Class Meeting Time: Tue & Thu: 16:00 – 17:15**

**Course Web Page: <https://courses.acs.uwinnipeg.ca/2821-001>**

**Office: 3C08B**

**Office Hours: Thu: 14:30 - 15:30**

**Room No: 3D01**

### **Important Dates**

First Class: Jan 8, 2019

Midterm Exam: Feb 14, 2019 (Tentative)

Reading Week (No Classes): Feb 17 – Feb 23, 2019

Final Withdrawal Date w/o academic penalty: Mar 15, 2019

(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: Apr 4, 2019

Final Exam: Apr 16, 2019 9:00 am – 12:00 pm

Final Exam Location: 3D01

### **Course Objectives/Learning Outcomes**

Information Security in Business will focus on the business aspect of information security, the why and what is information security and its importance to a business. Aside from security technologies that can be implemented to safeguard these assets, aspect of governance and management of information security will be considered as part of Information Security. The development of good corporate information technologies policies and procedures, management and operational framework and controls, and information security culture and awareness will be discussed in this course.

## **Evaluation Criteria For ACS-2821 Students**

### ***Assignments: 30%***

- There will be 3 assignments worth 10% each.
- Due at 11:59:59 pm on due day.
- No late assignment will be accepted, or under special circumstances accepted with 20% off for each late day.
- Assignments are only submitted by email as PDF (Portable Document Format) files to my University of Winnipeg email account – p.pak@uwinnipeg.ca.
- Multiple submissions are not permitted. Students may submit a partially completed assignment, and will receive credit for those attempted problems.

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### ***Midterm Exam: 20%***

- Closed-book in-class midterm exam.

### ***Final Exam: 50%***

- Closed-book final exam.
- The final exam covers all material discussed in the course.

## **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%

## **Test/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.
- Simple calculators can be used though. Simple calculators are subjected to test and can be denied use at mid-term test and final examination times.
- Unless a medical certificate is provided, no accommodation is made for missed exams.

## **Prerequisite and Restriction Information**\*

(This information can be found in the UW General calendar)

- A grade of at least C in ACS-1803(3), or permission of the Department Chair.

\*Make sure that you have the necessary prerequisites to take this course. If you have not successfully completed the above listed course(s), it is in your interest to go to student registration office and officially drop the course.

## **Email Communication Requirements**

- 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.
- Use 'ACS-2821' as subject in email communication related to the course.

## **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](mailto: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](http://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>

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

*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.

## **Required Text Book(s)/Reading List**

### **Information Security: Principles and Practices**

Merkow & Breithaupt

2nd Edition, 2014

Pearson Education, Inc.

ISBN-13: 9780789753250

And any additional reading materials that will be provided in class.

Class notes and notices will be posted on the course website. Students are responsible for material covered in class and announcements made in class.

## **Course Outline (Tentative)**

### **Introduction to Information Security**

What is information security?

Why is information security important in a business?

What are the key objectives of information security?

Who are the attackers?

### **Information Security Management**

Governance and Risk Management

- IT Security Management
- IT Risk Assessment
- IT Security Controls, Plans, and Procedures
- IT Security Awareness Program and Initiatives

Business Continuity Planning and Disaster Recovery Planning

Law, Investigations, and Ethics

### **Information Security Technology**

Physical Security Control

Operations Security

User Authentication and Access Control

Cryptography

Telecommunications, Network, and Internet Security

- Firewall and Intrusion Detection/Prevention System
- Malicious Software and Denial of Services Attacks

Software Development Security

### **Securing the Future**

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 (March 15 is VW date for classes that begin in January and end in April).
4. No make-up classes scheduled
5. No classes:  
February 17 – 23, 2019 – Winter Mid-term reading week