

Course Outline COSC 232 - Information System Security

Instructor: Matthias Koch, MBA
Office Hours: by appointment
E-Mail: mkoch@okanagan.bc.ca

Course Objective

In this course, students will explore various aspects of computing where security is important.

Techniques for enforcing security will be investigated.

Course Description

Recent years have witnessed widespread use of computers and their interconnecting networks. This demands additional computer security measures to protect the information and relevant systems. This course provides an overview of security challenges and strategies of countermeasure in the information systems environment. Topics include definition of terms, concepts, elements, and goals incorporating industry standards and practices with a focus on confidentiality, availability, and integrity aspects of information systems.

Learning Objectives

By the end of this course, students will be able to:

1. Explain information systems security and its effect on people and businesses.
2. Describe how malicious attacks, threats, and vulnerabilities impact an IT infrastructure.
3. Explain the role of IT operations, administration, and security policies.
4. Explain the importance of security audits, testing, and monitoring in an IT infrastructure.
5. Describe the principles of risk management, common response techniques, and issues related to recovery of IT systems.

Text Book

David Kim and Michael G. Solomon, Fundamentals of Information Systems Security , 3 rd Edition ISBN 978-1-284-11645-8

Evaluation Criteria

The graded assignments will be evaluated using the following weighted categories:

Category	Weight
Discussion / Class Participation / Assignments	10%
Lab Assessments and Assignments	10%
Research papers and Projects	35%
Individual Exams	45%
TOTAL	100%

Please notify the instructor in advance if you are unable to write at a set time. No notification will result in a mark of zero.

Mid Term Exam February 24, 2020

Research Paper Presentations: March 20 – April 02

Quizzes will take place in class

Discussion / Class Participation / Attendance

Attendance and participation are part of your course grade. You are expected to attend all scheduled class sessions. If you need to miss a class, please let the instructor know as soon as possible. You are responsible for all information covered in class, both substantive and administrative, by obtaining that information from a classmate. Classes will include opportunities for you to participate in discussions and for your teams to work together. Failure to attend class will result in an inability to achieve the objectives of the course. Absences may result in loss of points for class participation. Full attendance and active participation are required for you to succeed in this course.

You are expected to participate in discussions. In assessing your oral comments, quality is more important than quantity. A quality contribution is concise. For example, it may bring out a new aspect of the topic being discussed, contribute to an idea introduced by a classmate, provide a useful alternative perspective on a subject, helpfully summarize previous comments to support the learning, introduce highly original thinking on an issue or problem, identify linkages and relationships to other knowledge or events, demonstrate deep understanding of a critical point, present an analysis of the facts of a case, guide the discussion in a more fruitful direction, provide a reasoned argument based on evidence from the case or readings, or offer an observation from your experience when it adds to the discussion and learning.

You are encouraged to volunteer to answer questions and to be prepared. The instructor may call on you to answer questions even when you have not volunteered (“cold call”).

Individual Assignments, Projects and Research papers

These will provide opportunities for you to demonstrate an understanding of the course material and apply it to new situations. Assignments may include answering specific questions, completing in-class exercises, or preparing case analyses, article critiques, research reports, etc.

Topics for the Research paper include:

1. Security Models for New Application domains
2. Cloud Security
3. Identity Management
4. Role based access control
5. Attribute based access control
6. Security policy configuration, mining
7. Security for Smart Devices
8. Security and Internet of Things
9. Security for Social Networks
10. Big Data Security
11. Security for Digital Money
12. Inference Control
13. Security in WWW
14. Security for Mobile Systems
15. Security for Spatial/temporal Systems
16. Intrusion Detection
17. Security for Web services
18. Biometrics
19. Viruses
20. Computer Ethics
21. Spam and Phishing
22. Identity theft
23. Security Policy Management
24. Human Aspects of Security
25. Crypto currency
26.

Individual Exams

These will provide opportunities for you to demonstrate an understanding of the course material by applying what you have learned to questions raised in the examinations. There will be two exams (midterm 20%; final 25%).

Important Required Procedures for Submitting Your Work

Submit assignments and presentations in MS Office format (Word or PowerPoint), unless otherwise approved in advance in writing. Unless otherwise indicated, each assignment will be posted in the 'Assignments' section of our Moodle site. Submit your response via Moodle (not email) by the starting time of the class when the assignment is due using the file naming convention: lastname-assignment, or teamnumber-assignment, where assignment is the name of the assignment. All submitted work must be completed on time. If you will not be present for a class, you must submit the assignment before the beginning of the scheduled class. Assignments submitted late or not following the file naming convention will be marked down.

OKANAGAN COLLEGE POLICIES

Okanagan College Academic Misconduct Policy:

Any incidents of academic misconduct, as outlined in the Academic Offences policy in the Okanagan College calendar, may result in a mark of 0% or another consequence permitted by the policy. In cases of severe or repetitive misconduct, the Dean's office and the College Registrar will be notified and the student may be given a **failing grade for the course** or a more serious consequence as permitted by the policy, such as expulsion. The Academic Offences policy can be located online at the following link: <http://webapps-5.okanagan.bc.ca/ok/Calendar/AcademicIntegrity>

Okanagan College Student Notification of OC Policies:

Okanagan College requires that students are informed of acceptable student conduct specifically relating to OC Student Non-Academic Conduct and Student Academic Offences policies.

Student Non Academic Conduct:

What Is The Disruption Of Instructional Activities?

At Okanagan College (OC), disruption of instructional activities includes student "conduct which interferes with examinations, lectures, seminars, tutorials, group meetings, other related activities, and with students using the study facilities of OC", as well as conduct that leads to property damage, assault, discrimination, harassment or fraud. Penalties for disruption of instructional activities can include a warning and/or a failing grade on an assignment, examination or course, or possible suspension from OC. The complete policy is available online at:

<http://webapps-5.okanagan.bc.ca/ok/Calendar/StudentConduct>

Student Academic Conduct:

What Is Cheating?

"Cheating includes but is not limited to dishonest or attempted dishonest conduct during tests or examinations in which the use is made of books, notes, diagrams or other aids excluding those authorized by the examiner. It includes communicating with others for the purpose of obtaining information, copying from the work of others and purposely exposing or conveying information to other students who are taking the test or examination."

Students must submit independently written work. Students may not write joint or collaborative assignments with other students unless the professor approves it in advance as a group/team project. Students who share their work with other students are equally involved in cheating.

What Is Plagiarism?

Plagiarism is defined as "the presentation of another person's work or ideas without proper or complete acknowledgement." It is the serious academic offence of reproducing someone else's work, including words, ideas and media, without permission for course credit towards a certificate, diploma, degree and/or professional designation. The defining characteristic is that the work is not yours. x

"Intentional plagiarism is the deliberate presentation of another's work or ideas as one's own." Intentional plagiarism can be a copy of material from a journal article, a book chapter, data from the Internet, another student, work submitted for credit in another course or from other sources.

"Unintentional plagiarism is the inadvertent presentation of another's work or ideas without proper acknowledgement because of poor or inadequate practices. Unintentional plagiarism is a failure of scholarship; intentional plagiarism is an act of deceit."

What Are The Students' Responsibilities To Avoid Plagiarism?

Students have a responsibility to read the OC Plagiarism Policy and Procedures outlined in the OC calendar, which is available online at: <http://webapps-1.okanagan.bc.ca/ok/calendar/Calendar.aspx?page=AcademicOffenses>

“Students are responsible for learning and applying the proper scholarly practices for acknowledging the work and ideas of others.” Students who are unsure of what constitutes plagiarism should refer to the UBC publication “Plagiarism Avoided; Taking Responsibility for your Work”. This guide is available in OC bookstores and libraries.

Students must acknowledge the sources of information used on all their assignments. This usually involves putting the authors’ name and the year of publication in parentheses after the sentence in which you used the material, then at the end of your paper, writing out the complete references in a Reference section.

Students are expected to understand research and writing techniques and documentation styles. Unless otherwise directed by the professor, use the American Psychological Association (APA) or Modern Language Association (MLA) style and cite references using the APA guidelines. A copy of the APA manual is available in the OC libraries, and the library website has online resources available on both major citing styles.

What Are The Penalties For Plagiarism And Cheating?

Okanagan College professors may actively monitor student work for plagiarism or cheating and will follow the Okanagan College Policies when an offense is suspected. A student found to have committed an offense may receive a formal letter of reprimand outlining the nature of the infraction, or further disciplinary action depending on the severity of the offense or whether this is a repeat occurrence. The Dean’s Office of the Science, Technology and Health portfolio, along with the College Registrar, record and monitor all reported instances of plagiarism and cheating.