CIS 5650: Managing Corporate Information Systems  
Spring 2010

Instructor Information:

Dr. Mustafa Kamal, Office: WDE 2404, Phone: 660-543-4243, email  kamal@ucmo.edu  
Class : Thursday 5:30 to 8:00  WDE 2120  
Office Hours: 10:00 to 12:00 noon.  M, W, Th.  
And by appointment

Text:
Network Defense and Countermeasures – Second Edition  
Author: Randy Weaver

Course Description:
This course provides an in-depth knowledge of managing corporate information systems with an emphasis on security. Both managerial and technical aspects of IT security will be discussed.

Course objectives:
The objectives of the course are:

1. Introduce the students to the concepts of Information Security; Understand TCP/IP Networking; understand the treats to Network Security; Goals of Network Security and Defense in Layers
2. Understand fundamental concepts of Risk Analysis, approach to RA, RA processes, and how to minimize risk
3. Understand the concepts of security policy implementations, formulating a security policy and conducting ongoing RA
4. Understand network traffic signature; understand signature analysis, detect traffic signature, identify suspicious events and understand the concepts of Common Vulnerability and Exposure Standards
5. Understand VPN concepts; Understand VPN core activities such as encapsulations, encryptions and authentication
6. Understand VPN implementation procedures; designing and configuring a VPN, using VPN with firewalls, packet filtering for VPN
7. Understand IDS concepts; seven step detections, implement and evaluate IDS
8. Understand ID incidence response; filter rules, security response team, six step response process, dealing with false alarm and legitimate security alerts
9. How to choose and design a firewall; overview of firewalls, packet filtering, rules and restrictions, firewall configurations, software vs. hardware firewalls
10. Understand Firewall Topologies; securing perimeters, choosing a host, working with proxy servers, using network address translations, three step process in authenticating users

Course Outcomes:
After successful completion of the course students should be able to:

1. Perform contingency planning
2. Apply security management models for developing
3. Develop a network defense and protection mechanism
4. Configure firewalls
5. Compare and apply various encryption mechanisms
6. Perform risk analysis for information security

**Outcome measurement**
All outcomes will be measured by tests and successful completion of assignments.

**Teaching methods:**
Lectures and class discussions.

**Course Requirements:**
1. You are responsible for reading each chapter and preparing assignments given by the instructor. All assignments are due on the date specified by the instructor.

2. Class presentations are required and are expected to be supported with appropriate visual aids. PowerPoint is available in the lab.

3. All writing assignments must be typed, spell and grammar checked unless excused by the instructor. The computer lab is available for word processing.

**Attendance policy:**
You are expected to attend class and participate in class discussions and make presentations. There tends to be a strong correlation between class attendance and final grades. It is your responsibility to collect notes if you miss a class.

Be in class on time. Being tardy is counted as absent.

If you decide to stop attending, then drop the course. A course grade will be assigned if you are registered in the course based upon the number of points obtained.

**Absence or tardy:** Your letter grade will drop by one level for every unexcused absences. Please contact me ahead of time if you have to miss a class for personal/job related/university related reasons. For emergency medical cases, a note from the doctor’s office stating their recommendation for absence is needed. Being tardy will be considered as absent (except in extenuating circumstances). The door will be closed at 5:35 p.m.

**Honesty policy:**
University policy deals severely with students caught cheating, copying papers or programs, or participating in dishonest behavior. On individual assignments it is all right to discuss conceptual aspects of the projects with other people; however, do not key your assignment from someone else’s work, do not allow someone key your assignment, do not allow anyone to dictate keystrokes to you, and do not copy another person’s project files onto your diskette. All individual written work is to be unique to you.

Plagiarism is a form of cheating. Claiming a thought or idea as your own when it actually belongs to someone else is wrong. In a paper or presentation, it is assumed that all information originated with you unless you state otherwise. If ideas or thoughts originate with another person, cite that source in your papers and presentations. Do not present another person’s work as your own.
Do not use reference material during an examination unless provided by the instructor.

If a student is suspected of dishonesty, a meeting with the instructor will be scheduled. Responses to such an offense may include assigning a zero score on the assignment or test, a grade of “F” in the course, and recommendation for removal from the degree program. All instances of dishonesty are reported to the Vice President for Student Affairs. For more information see page 123 of the University Calendar/Handbook.

**Tests and assignments policy:**
Tests will be given on the dates announced by the instructor. A make up test will be considered only in case of a serious emergency. Assignments will be due on the date specified. No late submission will be accepted. Final exam will be held as per schedule.

**Grading:**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>100</td>
</tr>
<tr>
<td>Midterm Test</td>
<td>100</td>
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<tr>
<td>Final exam</td>
<td>100</td>
</tr>
<tr>
<td>Class Presentations</td>
<td>75</td>
</tr>
<tr>
<td>Class participation</td>
<td>25</td>
</tr>
<tr>
<td>Research paper</td>
<td>100</td>
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</tbody>
</table>

Total: 400 points

Grading: A: >90%, B: 80-89%, C: 70-79%, D: 60-69%, F <60%

The instructor reserves the right to curve the grades, if necessary.

**Final exam will be held as per schedule.**

Research: All students taking the course for graduate credit will have to submit an in-depth research paper. Appropriate topics, length, format etc. will be discussed in class. The instructor will recommend topics on which the student may work. You may select a topic with the approval of the instructor. These topics will be based on relevance to the course and currency. The student will select one of the topics and develop a research proposal and submit it to the instructor for approval. Once approved, the student may proceed to complete the research within the allotted time.