CNS 395 --- Information Systems Security Engineering II

Course Overview

This course requires students to apply Information System Security Engineering methods and processes to design, document and implement comprehensive security infrastructures in realistic scenarios. Students will work in teams through the entire life cycle of a Security infrastructure project from needs discovery, threat assessment, architecture design, implementation, effectiveness assessment and auditing.

The course is designed to span two quarters. In this first quarter, student will learn the Information Systems Security Engineering process and performs asset identification, threat assessment and system requirement specification.

Pre-req – CNS 394 – This is the second course in a 2-course sequence.

Learning Domain Description

CNS 395 --- Information Systems Security Engineering II is included in the Liberal Studies program as a course with credit in the Senior Year Capstone domain. Students are required to take a Liberal Studies capstone course in their major field during their senior year. Some Liberal Studies capstone courses may be offered jointly for students in related majors and fields of study. These courses provide students with an opportunity to integrate their major area of study with broader issues raised in their general education program. The Liberal Studies capstone experience allows students to see the relationship between the ideas, perspectives, and substantive areas of scholarship and creative work within their major field and those learned through significant aspects of their course work in the learning domain courses and other courses and experiences of the Liberal Studies Program.

Learning Outcomes

1. Students should apply one or more theories or concepts from courses within their major to an analysis of a particular issue relevant to the major.
2. Students should be able to discuss an idea, method or concept from a discipline outside their major field of study to an analysis of a particular issue relevant to their major field of study. This may include identifying perspectives and/or values of the major field, and comparing them with those of one or more disciplines outside the major.

How Learning Outcomes Will Be Met

1. Students will analyze the security tools necessary to properly manage the risk to a Critical Infrastructure.

2. Students will look at how laws and compliance impact the functional requirements of systems and their management.

Writing Expectations

Students will be expected to complete a minimum of 10 pages of writing for this course.

How Writing Expectations Will Be Met

1. Students must write a complete redesign document for the case study in groups of 4-5 students. Deliverable typically is over 150 pages long

2. Students must individually write a firewall change management policy. Typical policies range from 20 to 40 pages long.

Course Management System

Textbooks and Printed Resources

Textbook Required: Information Assurance for the Enterprise: A Roadmap to Information Security (McGraw-Hill Information Assurance & Security)
ISBN-13: 978-0072255249
The class will heavily use documents widely available on the Internet as well as textbooks available on the 27x7 IT collections at the DePaul library.

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

Grading

Grading – CNS 395:

- CEDAR case study main Design – 30% (G)
- Exams – 35% (I)
- SSL Injects – 25% (G)
- Writing Firewall Change Management Procedure – 10% (I)

G - Indicates a group project/assignment
I - Indicates and individual project/assignment

Throughout the course, students will also have to opportunity to individually compete for extra credits via "business injects" that will be released as "ad-hoc" tasks or challenges.

Grade Range: **Attendance is mandatory; each class missed beyond the first will lead to -5% on the final grade**

Grading Scale: PLEASE NOTE THE DIFFERENT "A" RANGE
- 95+: A
- 90-94: A-
- 87-89: B+
- 82-86 B
- 80-81: B-
- 77-79: C+
- 72-76: C
- 70-71: C-
- 60-69: D+
- 55-59: D
- 55<: F

Grading will be group-based but an individual grade adjustment coefficient (0.6-1.4) will be applied based on peer assessment and instructor's observations.

Penalty for missing classes: 1 class missed 0%: each class missed above 1: 5% penalty per class unless special arrangements are made with instructor.

Week-by-week Assignments/Readings
Course Schedule (Note: this may change)

Week 1:   Enterprise Infrastructure Design

Lecture on general design for large enterprise environments.

Work Assigned:
-        Forensic work on Customer service center PC
-        Firewall Change Management Procedure
-        Main implementation
-        Main case Study

Week 2:   LAN Switching and Bridging

Work Due:
-        Extra Credit Spanning Tree

Week 3: **Student presentations and work on case study and implementation**

Week 4 **Student presentations and work on case study and implementation**

Week 5 **Student presentations and work on case study and implementation**

Assignment due:
- Forensic report on the Lombard Customer Center PC

Week 6 **Review and discussions of firewall change management procedures**

Assignment due:
- Firewall Change Management Procedure and presentation

Week 7 **Guest speaker**

Assignment due:
- Main case study design – Skeleton Report

Week 8 **Student Presentation of their SSL Main implementation**

Assignment due:
- Main implementation + Implementation report

Week 9 **Work on Case Study Design**

Week 10 **Security Game (Surprise!)**

Assignment due:
- Main case study design report

Week 11 **CEDAR Case Study Presentation**

Assignment due:
- Presentation of the Case Study Design

College Policies

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If you have any questions be sure to consult with your professor.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: cdm.depaul.edu/enrollment.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.
To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.
Lewis Center 1420, 25 East Jackson Blvd.
Phone number: (312)362-8002
Fax: (312)362-6544
TTY: (773)325.7296