

COURSE NUMBER AND TITLE: BCIS 480/590 – Management of Information Security
Monday & Wednesday: 4:30 p.m. – 5:45 p.m.

FACULTY'S NAME: Oliver, Richard L.

OFFICE HOURS AND LOCATION: Office Hours: Tuesday 3:45p.m. – 4:30 p.m.
And by appointment.
My office is BC 233.

TELEPHONE NUMBER AND E-MAIL ADDRESS: 646-2944; The **Instructor** in WebCT.

COURSE DESCRIPTION: Computer security is a critical part of business strategy. Companies are now demanding new levels of risk management, assessment, reporting, and protection. The ability to develop secure information systems from the ground up are valuable in today's market, producing more efficient, cost-effective and consumer-friendly programs. Topics include software design principles, symmetric encryption and public-key cryptography, as well as strategies to defend software against adversaries such as worms and hackers.

LEARNING OBJECTIVES:

Foundational Knowledge: We will use the textbook as a means to survey the very broad field of computer based security and to begin the process of understanding what can be done to secure valuable information. In addition, we use the Internet as a source of current readings that bring current events into the perspective of this course.

Application Goals: We will use critical thinking, analysis and reading skills throughout this course. We will also work to develop skills of discovery in the vast amounts of information (data) that is available in a computing environment. We will use both deductive and inductive logic to reconstruct and construct paths from and to network nodes which might represent threats to our secured network. Finally, we will develop experience with industry standard tools used in the securing of a network.

Integration Goals: This class will utilize a wide variety of your computing skills that you have developed over your academic career. We will use network protocols, client/server computing, distributed and remote computing, logical inference and intermediate programming skills to understand and analyze actions and reactions in the network security milieu.

Human Dimension Goals: We will work in teams throughout the semester. This is a vital component in the study of network security since the breadth of concepts needed to truly understand network security is so large. You will both observe and participate in changing team dynamics and, with hard work and a little luck, celebration of your success in your role in your team's success!

Valuing Goals: I believe it to be vital for students to succeed in the activities in this course. You have proven you are good at learning foundational knowledge (you are juniors, seniors and graduate students!) and this class is about applying that knowledge as you will in the work place.

I want you to enjoy some of that success now.

"Learning How to Learn" Goals: To do well and enjoy this class, you will need to take care to study the foundational knowledge as assigned and then to PRACTICE the skills on your own. This material is best learned by doing examples and challenging yourselves and your team mates. The scheduled is designed to present foundational knowledge in significant, but manageable blocks, and then reinforce your knowledge with lecture, discussion and practice (practice, practice).

Specifically, the students completing this course will be familiar with the fundamentals of ecommerce security including:

1. Planning for security and contingencies.
2. Security programs and models.
3. Risk assessment, management and protection.
4. Personnel, legal and ethical aspects of security management.

TEXTBOOKS:

Pfleeger, Charles P., and Plegger, Shari L. (2006), "Security in Computing", Prentice-Hall, Inc., Upper Saddle River, NJ. ISBN: 0-13-239077-9.

TENTATIVE CALENDAR		
Date	Topic/Reading	Projects/Assessments
Wednesday, Jan 16		
Monday, Jan 21	Martin Luther King Holiday	
Wednesday, Jan 23	Pages 1-32	Exercises 9,10,19,20 on page 36
Monday, Jan 28	Pages 37-68	
Wednesday, Jan 30	Pages 75-92	Exercises 4, 8, 12, 30 on page 97
Monday, Feb 4	Pages 98-132	Exercises 1, 2, 3 on page 185
Wednesday, Feb 6	Pages 132-160	Exercises 5, 6, 9 on page 185
Monday, Feb 11	Pages 160-182	Exercises 12, 14 on page 185
Wednesday, 13	Pages 188-193	Exercises 22, 23 on page 239
Monday, Feb 18	Pages 219-237	Exercises 26, 28 on page 239
Wednesday, Feb 20	Review for Examination	
Monday, Feb 25	Examination 1	
Wednesday, Feb 27		Project #1 Due
Monday, March 3	Pages 242-263	Exercises 1, 14 on page 316
Wednesday, March 5	Pages 318-372	Exercises 1, 11 on page 373
Monday, March 10	Pages 376 -396	Exercises 14, 18 on page 504
Wednesday, March 12	Pages 396-440	Exercises 23, 26, 29 on page 504
Monday, March 17	Pages 440-474	Exercises 33, 34, 36 on page 504
Wednesday March 19	Pages 440-484	Exercises 42, 49, 57 on page 504
March 21-28	Spring Break	

Monday, March 31	Pages 484-496	Exercises 59, 63, 65 on page 504
Wednesday, April 2	Review for Examination	
Monday, April 7	Examination 2	
Wednesday, April 9		Project #2 Due
Monday, April 14	Pages 508-566	Group Presentations
Wednesday, April 16	Pages 571-599	Group Presentations
Monday April 21	Pages 603-643	Group Presentations
Wednesday, April 23	Pages 647-698	Group Presentations
Monday, April 28	Pages 698-714	Group Presentations
Wednesday, April 30	Review for Examination	
Monday, May 5	Examination 3	3:30 p.m. – 5:45 p.m.

WRITTEN ASSIGNMENTS: You will write several short papers during the semester, both individually and within a group environment.

LABORATORY PROJECTS: You will have regular assignments to be done in one or more of the network security laboratories and on AIS servers on the network. Of particular note in these exercises is the sensitive nature of the content and potential impact on NMSU's computing environment. You are expected to behave as an information technology professional! That is, when you are unsure of the impact of some potential action, you must take proactive measures to protect the surrounding computing environment. You will be given explicit directions on how to isolate yourself and create a safe experimental environment. Use this safe environment! Finally, if the worst happens and you discover a mistake has been made, come forward, admit the mistake and help in any needed recovery procedures. The primary laboratory for this class is the Network Security Laboratory in Room 309 of the Business Complex. In general, the NSL will be used for exploration of concepts and tools that do not pose a threat to other users of the computing environment. The NVL is a secure and isolated facility where extensive experimentation can be done in a non-threatening manner. NOTE: This discussion also extends to your computer usage on any other equipment as well. As a information technology professional and a student in this class, you are in a unique position to cause significant disruptions in both local and remote computing services. Should your actions cause such a disruption, you will be removed from the class, the university and will be prosecuted to the fullest extent of the law.

GRADING POLICY (INFORMATION ON ASSIGNMENTS, EXAMS, QUIZZES, ETC., INCLUDING PERCENTAGE OF GRADE): There will be two Examinations given during the course. In these tests, you will be asked to demonstrate mastery of fundamental material as well as to make subjective evaluations of material of interest in the course.

PERFORMANCE AREAS: The grades will be determined by combining scores in three major performance areas: Readiness Assessment, Projects and Examinations. The relative weights of these performance areas toward the final grades are given below.

Performance Area	% Of Total
Group Projects	20%
Individual Projects	20%
Examinations	<u>60%</u>
	100%

INCOMPLETE GRADES: A grade of "I" (Incomplete) will be assigned only in circumstances in agreement with the current NMSU *Undergraduate Catalog*. Incomplete grades are to be given only if a student has passed the first half of the course and is unable to complete the course due to circumstances beyond the student's control. (If the circumstances develop during the first half of the course, the student has the opportunity to drop the class.) Examples of appropriate circumstances are documented illness, documented death or crisis in the student's immediate family and similar circumstances. The catalog states that job related circumstances are generally not appropriate grounds for assigning an "I" grade and that this grade is not to be used to avoid assigning a D, F, or U grade.

S/U GRADES: If you are taking this course under the S/U option, you must earn a "C" or better for an undergraduate and "B" or better for a graduate student to receive a grade of "S."

TEACHING METHODS: The material in this course is available in the textbook. The student is encouraged to read the assigned readings by the date indicated on each of the chapter. The instructor will lecture, lead class discussions and prepare projects that will provide practice and reinforcement of key concepts. Students are expected to prepare for each class and participate in small group and class-wide discussions. A significant number of programming exercises will be assigned as learning tools for specific concepts in the course. Projects will be used for the student to demonstrate mastery of key concepts and skills. Finally, peer reviewing will be used to provide a more complete examination of the course material.

ATTENDANCE POLICY: It is university policy that "Students making satisfactory progress in their classes will be excused from classes when they are representing New Mexico State University on a university sponsored event (e.g., ASNMSU President represents NMSU at legislative session, student-athletes competing in NMSU scheduled athletic events or education field trips and conferences). Authorized absences do not relieve the student of class responsibilities. Prior written notice of the authorized absence will be provided to the instructor by the sponsoring department." Attendance in the lectures is encouraged by the instructor; however, attendance is not required. Note that your team members will rate your performance at the end of the course.

CLASSROOM ETIQUETTE: Talking, whispering and/or cell phone use during a lecture is disruptive to the class and is distracting for the speaker. If you must chat with someone, quietly leave the classroom. If needed, I will help you remember this policy.

LATE/INCOMPLETE ASSIGNMENT POLICY: For written projects and assignments, late

assignments will be accepted up to 24 hours late with a 20% reduction in the points available.

MAKE-UP ASSIGNMENT POLICY: There will be two regular exams and a comprehensive final. No makeup exams are planned, but it is important to contact the instructor as soon as possible to discuss your grade computation should you have to miss an examination for health or family emergency reasons. If you are absent because you are on an official NMSU trip, contact the instructor ahead of time to determine makeup procedures. A University approved excuse will be required for an absence to be excused.

ORAL/WRITTEN COMMUNICATION: Students are expected and encouraged to participate in each of the many discussions which will occur during the semester. Students are asked to contribute only in a public and substantive manner to classroom presentations. Private communications during classroom presentations are not allowed and the instructor reserves the right to contribute any/all humorous content to the discussions.

LIBRARY USAGE: Students will use the Internet frequently as an online library.

COMPUTER USAGE: You will be using computers in many new and perhaps unusual manners during this course. First, your classroom presentations will be in an “intelligent classroom” in which every student is seated at a computer. The classroom presentations will be directed with a set of notes that will be available electronically on the WebCT course. These notes are available as a Power Point Show, and as a PDF file. In past semesters, students have printed these notes out as hardcopy, then written directly on them. Other students take notes electronically during class.

GLOBAL/INTERNATIONAL BUSINESS CONTENT: This course will address many of the technologies that are used to conduct international business. In particular, we will examine the foremost technologies used in international exchange of business information.

ETHICS CONTENT: As appropriate, we will consider ethical issues related to the course content. Information is inherently valuable, and you may well be in professional positions to control access to this resource. I encourage you to consider these ethical issues thoughtfully.

POLITICAL, SOCIAL, LEGAL, REGULATORY, ENVIRONMENTAL, AND TECHNOLOGICAL CONTENT: A primary focus of this class is the use of today’s technology to implement business systems using the Internet. Therefore, the technology of the Internet will be discussed daily.

DIVERSITY CONTENT: This course does not cover workforce diversity.

ADA STATEMENT: STUDENTS WITH DISABILITIES

If you have (or believe you have) a disability and would benefit from classroom accommodation(s), please contact the Services or Students with Disabilities (SSD) Office located at Garcia Annex [Phone: 646-6840; TTY: 646-1918]. If you have a condition that may affect

your ability to exit safely from the premises in an emergency or that may cause an emergency during class, you are encouraged to discuss any concerns with the Instructor.

Student Responsibilities:

1. Register with SSD and obtain accommodation documents early in the semester;
2. Deliver the completed accommodation and testing form(s) to the instructor(s) within the first two weeks of beginning of classes (or within one week of the date services are to commence);
3. Retrieve the signed form(s) from faculty and return to SSD within five (5) days of receipt from faculty and at least one week before any scheduled exam; and,
4. Contact the SSD Office if the services/accommodations requested are not being provided, not meeting your needs, or if additional accommodations are needed. Do not wait until you receive a failing grade. Retroactive accommodations cannot be considered.

Faculty Responsibilities:

1. Sign the *ACCOMMODATION REQUEST FORM* and *TESTING ACCOMMODATION FORM* (when presented), retain a copy, and return the original to the student within five (5) working days of receipt;
2. Contact SSD immediately if there are any questions or disputes regarding accommodation(s), disruptive behavior, etc.; and,
3. Refer the student to SSD for any additional accommodations.

Accommodations:

SSD Office, 646-6840 (Garcia Annex, Rm 102)

Michael Armendariz

Discrimination:

EEO/ADA & Employee Relations, 646-3333 (Hadley Hall, 15)

Elva Telles

All medical information will be treated confidentially.

ADDITIONAL GUIDANCE: You are expected to attend regularly and to ask and answer questions in class. It is not necessary to bring the textbook to class unless it is specifically requested. If you are ever absent, obtain the materials available on the WebCT course and it is suggested that you discuss the classroom presentation with one or more of your classmates.

Never take too many courses. A course load of 16 credits during the regular semester should require 16 hours of class time plus a minimum of 32 hours of preparation time per week, for a total of 48 hours. Keep this in mind when taking on other commitments. Take advantage of the many free services offered by the [Center for Learning Assistance](#). In the unlikely event that you wish to file a grievance with some administrative office or faculty member on campus, check the details of the process in the "General Information" section of the [Undergraduate Catalog](#). Probably the most urgent thing to know about a grade appeal (besides the fact that there is an appeals process) is that you must initiate the process by submitting a written appeal to the faculty member within 30 days of the start of the term following the term in which the grievance occurred. It's not clear whether this includes summer terms, so, to be safe, submit within 30 days of the grievance.

Many accounting and BCS students have found that interning under the **cooperative education (CO-OP)** program is a valuable activity that sets them apart from students without practical

experience. Contact the Co-op office in Garcia Annex (646-4115), visit with Celina Talamantes in the Advising Center in Guthrie Hall, and frequently check the NMSU web page links to the [placement and co-op offices](#). Also keep in mind that prime interviewing season for permanent positions is the fall. Whether you are graduating in December or May, register with Placement and interview diligently in your last fall semester.

It will be the responsibility of the student to monitor their progress and decide if it is appropriate to withdraw from the class. I will not automatically disenroll students for persistent absences or persistent failure to complete assignments.

Most assignments in this course are of team nature and joint work on these projects is necessary. You are encouraged and expected to discuss, debate, argue and learn together as a team! When projects are assigned and designated as team projects, please be sure to indicate all participants on the project. Situations involving illegal or inappropriate behavior can result in disciplines up to and including as University censure. Please reference the NMSU Student Handbook for a full description of the NMSU Policy.

ABSENCE OF INSTRUCTOR: I am not scheduled to be out of town this semester. Should this change, you will be notified asap and the schedule will be adjusted as required.

PREREQUISITE: a letter grade of “C” or better in a networking class.

COMMUNICATIONS DEVICES: Communications devices such as pagers and cellular phones must be off and/or silent during class. Devices which disrupt the class will be confiscated and sold as scrap metal, the proceeds of which will be contributed to the instructor’s retirement fund.

KEY DATES:

Faculty Report	Thursday	January 10
Residence Halls open	Monday	January 14
Spring convocation	Tuesday	January 15
Instruction begins	Wednesday	January 16
Late registration	Tuesday	January 22
Deadline for registration/course addition	Monday	January 28
Last day to drop with "W" (except courses carrying designated dates)	Monday	March 10
Spring Break	Monday-Friday	March 24-28
Last day to withdraw from the university	Friday	April 18
Examination Week	Monday-Friday	May 5-9
Last Day of Classes	Friday	May 9
Commencement	Saturday	May 10