

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

FACULTY'S NAME: Oliver, Richard L.

OFFICE HOURS AND LOCATION: Monday & Wednesday: 3:45-4:30 p.m.
Other times by appointment.
My office is BC 233.

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

COURSE DESCRIPTION: This course surveys the current risks and threats to an organization's information resources and presents a structured manner of safeguarding those assets. Both the theoretical and historical background will be presented for the major issues of workstation and network security: vulnerability assessment, intrusion detection, defensive hacking and securing a site. Laboratory exercises will be used to reinforce significant concepts from the lectures.

LEARNING OBJECTIVES:

Ecommerce Security surveys the increasingly significant problems associated with attaching a computer to the Internet. While this is done as a daily business activity, the implications are often overlooked. This course seeks to raise the general awareness of the students of the implications of using the information superhighway. Students will utilize many of the public-domain tools available to investigate various components of ecommerce security. In addition, with corporate partnering, the students will utilize the industry leading tools in some areas of ecommerce investigations. This course is a hands-on course where we teach the students the basics of defending an ecommerce presence on the Internet by exposing the vulnerabilities of the Internet.

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. Risk assessment.
2. Intrusion detection.
3. Defensive hacking.
4. Classes of exploits.
5. Administrative uses of PERL.

TEXTBOOKS:

Kizza, Joseph N. (2005), "Computer Network Security," Springer Science+Business, Inc., New York, NY10013.

TENTATIVE CALENDAR (Actual Mileage May Vary)			
Date	Topic	Readings	Projects
Monday, Jan 22	Computer Network Fundamentals	Chapter 1	
Wednesday, Jan 24	Understanding Network Security	Chapter 2	
Monday, Jan 29			
Wednesday, Jan 31	Security Threats to Computer Networks	Chapter 3	
Monday, Feb 5	Computer Network Vulnerabilities	Chapter 4	
Wednesday, Feb 7			Laboratory 1
Monday, Feb 12	Cyber Crimes and Hackers	Chapter 5	
Wednesday, Feb14	Hostile Scripts	Chapter 6	
Monday, Feb 19			Laboratory 2

Wednesday, Feb 21	Security Assessment, Analysis & Assurance	Chapter 7	
Monday, Feb 26	Access Control and Authorization	Chapter 8	
Wednesday, Feb 28	Examination #1		
Monday, March 5	Authentication	Chapter 9	
Wednesday, March 6			Laboratory 3
Monday, March 12	Cryptography	Chapter 10	
Wednesday, March 14	Firewalls	Chapter 11	
March 19-23	SPRING BREAK		
Monday, March 26	System Intrusion Detection and Prevention	Chapter 12	
Wednesday, March 28	Computer and Network Forensics	Chapter 13	
Monday, April 2			Laboratory 4
Wednesday, April 4	Virus and Content Filtering	Chapter 14	
Monday, April 9	Security Evaluations of Computer Products	Chapter 15	
Wednesday, April 11	Examination #2	New Orleans	
Monday, April 16			Laboratory 5
Wednesday, April 18	Computer Network Security Protocols	Chapter 16	
Monday, April 23	Security in Wireless Networks and Devices	Chapter 17	
Wednesday, April 25			Laboratory 6
Monday, April 30	Other Efforts to Secure Information	Chapter 18	
Wednesday, May 2	Security Beyond Computer Networks	Chapter 19	
Monday, May 7	Examination #3 - 3:30 pm–5:30 pm		

WRITTEN ASSIGNMENTS: You will write several homework assignments during the semester. These must be done individually, in accordance with the NMSU policy on academic honesty. The NMSU definition of plagiarism (taken from <http://www.nmsu.edu/~vpss/SCOC/misconduct.html>) is given below:

Plagiarism is using another person's work without acknowledgment, making it appear to be one's own. Any ideas, words, pictures, or other intellectual content taken from another source must be acknowledged in a citation that gives credit to the source. This is irrespective of the origin of the material, including the Internet, other students' work, unpublished materials, or oral sources. Intentional and unintentional instances of plagiarism are considered instances of academic misconduct. It is the responsibility of the student submitting the work in question to know, understand, and comply with this policy.

If no citation is given, then borrowing any of the following * would be an example of plagiarism:

- an idea or opinion, even when put into one's own words (paraphrase)
- a few well-said words, if these are a unique insight
- many words, even if one changes most of them
- materials assembled by others, for instance quotes or a bibliography
- an argument
- a pattern of ideas
- graphs, pictures, or other illustrations
- facts
- all or part of an existing paper or other resource

*This list is not meant include all possible examples of plagiarism.

LABORATORY PROJECTS: You will have regular assignments to be done in one or more of the network security laboratories. 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 short, true-false, multiple choice Readiness Assessment Tests (RATs) given before the class discussion of each chapter. The individual RATs will be made available approximately 48 hours ahead of time for each chapter. The students will takes the individual RATs open book and open notes. These RATs will be submitted by each individual by 12:00 am (NMSU-ST) on the date specified in WebCT and announced in class. There will be three 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
Individual RATs	5%
Projects	30%
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. 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.

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.

LATE/INCOMPLETE ASSIGNMENT POLICY: Projects can be submitted up to 24 hours late with a reduction of the possible points by 20%. Projects not submitted by that time will not be accepted.

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 or as soon as possible 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.

ADA STATEMENT: STUDENTS WITH DISABILITIES

If you have (or believe you have) a disability and would benefit from classroom accommodation(s), please contact the Office of Special Student Services located in the George Fetting Student Services Building (phone: 439-3720).

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 Special Student Services 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 Special Student Services 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 Special Student Services immediately if there are any questions or disputes regarding accommodation(s), disruptive behavior, etc.; and,
3. Refer the student to Special Student Services for any additional accommodations.

Contacts:

- Accommodations: Jeremy Patton [(505) 439-3725], Special Student Services Counselor (George Fettinger Student Services Building)
- ADA Coordinator: Doris Lynch [(505) 439-3716], Campus Student Services Officer (George Fettinger Student Services Building)
- Discrimination: [(505) 646-3635], Director of Institutional Equity (Hadley Hall, Room 15, NMSU)

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 BCIS 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.

NOTE TO BCS 590 STUDENTS: Students that have enrolled in the BCIS 590 (or any other 5XX number) course will be provided with additional opportunities to demonstrate their interest and expertise in the subject material for this course. The specific details will be provided to those students during the course. These opportunities will be undertaken with all the rigor and enthusiasm they deserve and that should be demonstrated by graduate students.

ABSENCE OF INSTRUCTOR: I am scheduled to be out of town this semester from April 10 through April 13. You will have an examination on Wednesday, April 11, 2007.

PREREQUISITE: two courses in computer programming.

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 11-12
Spring convocation	Wednesday	January 16
Residence Halls open	Wednesday	January 16
Instruction begins	Thursday	January 18
Late registration	Tuesday	January 23
Deadline for registration/course addition	Friday	January 30
Deadline for filing degree application (students meeting requirements at end of fall)	Friday	January 30
Spring Break	Monday-Friday	March 19-23
Last day to drop with "W" (except courses carrying designated dates)	Thursday	March 12
Last day to withdraw from the university	Monday	April 20
Examination Week	Monday-Friday	May 7-11
Last Day of Classes	Friday	May 11
Commencement	Saturday	May 12
Final Grades Due	Tuesday	May 15