COURSE NUMBER AND TITLE: BCIS 482 and BCIS 575: Management of Information Security

FACULTY’S NAME: Oliver, Richard L.

OFFICE HOURS AND LOCATION: Office Hours:
M 3:00 pm – 4:00 pm
W 3:00 pm – 4:00 pm
And by appointment
My office is BC 233.

TELEPHONE NUMBER: 646-2944

E-MAIL ADDRESS: The Instructor in BlackBoard.

COURSE DESCRIPTION: This course focuses on the managerial aspects of information security and assurance. Topics covered include access control models, information security governance, and information security program assessment and metrics. Coverage on the foundational and technical components of information security is included to reinforce key concepts. The course includes up-to-date information on changes in the field, such as national and international laws and international standards like the ISO 27000 series.

TEXTBOOKS:


LEARNING GOALS:

Goal 1: Communications
Students are effective communicators.
  • Students can write effectively. (COMM write)
  • Students can make effective oral presentations. (COMM oral)

Goal 2: Diversity
Students can demonstrate knowledge of diversity. (DIVERSITY)

Goal 3: Information Technology
Students are effective users of information technology. (TECH)
Goal 4: Critical Thinking
Students can solve problems and think critically.
• Students can solve problems. (PROB SOLV)
• Students can think critically. (THINK)

Goal 5: Legal and Ethical
Students can recognize legal and ethical issues.
• Objective 5a: Students can recognize legal issues. (LEGAL)
• Objective 5b: Students can recognize ethical issues. (ETHICAL)

LEARNING OBJECTIVES:

1. After completing Chapter 1, you should be able to do the following:
   a. Describe the importance of the manager’s role in securing an organization’s use of information technology and understand who is responsible for protecting an organization’s information assets
   b. Enumerate and discuss the key characteristics of information security
   c. Enumerate and define the key characteristics of leadership and management
   d. Differentiate information security management from general management
   e. Identify and implement basic project management practices and techniques

2. After completing Chapter 2, you should be able to do the following:
   a. Identify the roles in organizations that are active in the planning process
   b. Explain the principal components of information security system implementation planning in the organizational planning scheme
   c. Differentiate between strategic organization information security planning and specialized contingency planning
   d. Enumerate and explain the unique considerations and relationships that exist among the types of specialized contingency planning – IRP, DRP, and BCP

3. After completing Chapter 3, you should be able to do the following:
   a. Recognize the need for contingency planning
   b. Describe the major components of contingency planning
   c. Create a simple set of contingency plans, using business impact analysis
   d. Prepare and execute a test of contingency plans
   e. Explain the unified contingency plan approach

4. After completing Chapter 4, you should be able to do the following:
a. Define information security policy and understand its central role in a successful information security program
b. Describe the three major types of information security policy and explain what goes into each type
c. Develop, implement, and maintain various types of information security policies

5. After completing Chapter 5, you should be able to do the following:
   a. Explain the organizational approaches to information security
   b. List and describe the functional components of an information security program
   c. Determine how to plan and staff an organization’s information security program based on its size
   d. Evaluate the internal and external factors that influence the activities and organization of an information security program
   e. List and describe the typical job titles and functions performed in the information security program
   f. Describe the components of a security education, training, and awareness program and explain how organizations create and manage these programs

6. After completing Chapter 6, you should be able to do the following:
   a. Describe the dominant information security blueprints, frameworks, and information security management models, including U.S. government-sanctioned models
   b. Explain why access control is an essential element of information security management
   c. Select an information security management model and customize it to meet the needs of a particular organization
   d. Implement the fundamental elements of key information security management practices
   e. Discuss emerging trends in the certification and accreditation of U.S. federal IT systems

7. After completing Chapter 7, you should be able to do the following:
   a. List the elements of key information security management practices
   b. Describe the key components of a security metrics program
c. Identify suitable strategies for the implementation of a security metrics program
d. Discuss emerging trends in the certification and accreditation of U.S. federal IT systems

8. After completing Chapter 8, you should be able to do the following:
   a. Define risk management and its role in the organization
   b. Use risk management techniques to identify and prioritize risk factors for information assets
   c. Assess risk based on the likelihood of adverse events and the effects on information assets when events occur
   d. Document the results of risk identification

9. After completing Chapter 9, you should be able to do the following:
   a. Recognize and select from the risk mitigation strategy options used to control risk
   b. Evaluate risk controls and formulate a cost-benefit analysis using existing conceptual frameworks
   c. Explain how to maintain and perpetuate risk controls
   d. Describe the OCTAVE Method and other approaches to managing risk

10. After completing Chapter 10, you should be able to do the following:
    a. Describe the various access control approaches, including authentication, authorization, and biometric access controls
    b. Identify the various types of firewalls and the common approaches to firewall implementation
    c. Enumerate and discuss the current issues in dial-up access and protection
    d. Identify and describe the types of intrusion detection systems and the two strategies on which they are based
    e. Explain cryptography and the encryption process, and compare and contrast symmetric and asymmetric encryption

11. After completing Chapter 11, you should be able to do the following:
    a. Identify the skills and requirements for information security positions
    b. List the various information security professional certifications, and identify which skills are encompassed by each
c. Discuss and implement information security constraints on the general hiring processes
d. Explain the role of information security in employee terminations
e. Describe the security practices used to control employee behavior and prevent misuse of information

12. After completing Chapter 12, you should be able to do the following:
   a. Differentiate between law and ethics
   b. Describe the ethical foundations and approaches that underlie modern codes of ethics
   c. Identify major national and international laws that relate to the practice of information security
d. Describe the role of culture as it applies to ethics in information security
e. Identify current information on laws, regulations, and relevant professional organizations

**HOW YOUR LEARNING WILL BE MEASURED:** Your understanding and ability to explain terminology, advanced information systems concepts, behavioral and organizational issues, international, social and ethical issues will be measured by applying scoring rubrics to your discussion postings, InClass work, chapter quizzes, and examinations.

**PERFORMANCE AREAS:** The grades will be determined by combining scores in the following required activities: Discussions, InClass Work, Chapter Quizzes and Examinations.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Discussions</td>
<td>15%</td>
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<tr>
<td>InClass Work</td>
<td>15%</td>
</tr>
<tr>
<td>Chapter Quizzes</td>
<td>20%</td>
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</tbody>
</table>
GRADE COMPUTATION: To compute your grade, add your score in each of the three performance areas. Then, divide that number by the total points available in that performance area.

\[
\text{DPerf} = \frac{\text{Discussions Score}}{\text{Total Discussions Points}} \\
\text{IPerf} = \frac{\text{InClassScore}}{\text{Total InClass Points}} \\
\text{CQPerf} = \frac{\text{ChapterQuizScore}}{\text{Total Chapter Quiz Points}} \\
\text{EPerf} = \frac{\text{ExaminationScore}}{\text{Total Examination Points}}
\]

Finally compute your weighted average as:

\[
\text{Weighted Average} = (\text{DPerf} \cdot 0.15) + (\text{IPerf} \cdot 0.20) + (\text{CQPerf} \cdot 0.15) + (\text{EPerf} \cdot 0.50)
\]

LETTER ASSIGNMENT: At the completion of the scoring for the semester, the weighted average will be converted to a letter grade using the following brackets. Please note that once all of the scoring is complete, these brackets may change to some degree. However, the lower bound will ONLY move down. That is \( \geq 90\% \) will be an A, but that lower bound may be lowered to 88.5\% for example.

<table>
<thead>
<tr>
<th>Lower Bound, Upper Bound</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>90, 100</td>
<td>A</td>
</tr>
<tr>
<td>80, 89.9</td>
<td>B</td>
</tr>
<tr>
<td>70, 79.9</td>
<td>C</td>
</tr>
<tr>
<td>60, 69.9</td>
<td>D</td>
</tr>
<tr>
<td>0, 59.9</td>
<td>F</td>
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</tbody>
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ACADEMIC INTEGRITY

Academic integrity is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. You should refer to page 3 of the Student Code of
Conduct (http://www.nmsu.edu/~vpss/SCOC/student_hand_book.html) for detailed information regarding academic misconduct.

**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 majority of 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 chapters in the schedule. Each chapter will be the subject of an open-book, open-notes quiz. You should feel free to consult with the book, your study notes, the web and/or other students when you are completing these quizzes. Based upon the results of these chapter quizzes, the instructor will prepare a presentation of the key concepts for that chapter. Students are encouraged to use these presentations as a guide to the significant concepts in each of the chapters. Projects will be used for/by the student to demonstrate mastery of key concepts and skills. Twice during the semester, additional assessment will be done using closed-book, closed-note examinations.

**ATTENDANCE POLICY:** Attendance is recommended, but not required. 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."

We will be completing a number of InClass projects this semester. You must be in class to complete these projects and makeup work will not be available except as provided by the
university policy above.

**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 examinations during the semester and chapter quizzes. No makeup quizzes will be given. However, the quizzes are available for the entire semester now, thus you need to consult the schedule and manage your time to complete the quizzes early. No makeup examinations 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 and you are unable to access BlackBoard, 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.

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

**COMPUTER RESOURCES**
You will need access to the following computer resources:

- Connection to the University’s BlackBoard server. This can be through a home connection (dialup, DSL, cable modem, etc.) or through computers in the University’s computer labs. Go to [https://learn.nmsu.edu](https://learn.nmsu.edu) to connect to the BlackBoard server. This page also has links that will test your browser for compatibility with BlackBoard.
- The Network Vulnerability Laboratory on the 3rd floor of the Business Complex.

**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, you may contact the Student Accessibility Services (SAS) Office located in Corbett Center, Room 244, 575-646-6840, or email sas@nmsu.edu. Appropriate accommodations may then be provided for you. All medical information will be treated confidentially. If you have a condition which may affect your ability to exit safely from the premises in an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the Director of University Disability Services/ADA Coordinator, Diana Quintana, at the SAS Office. Questions regarding the Americans with Disabilities Act (ADA) and/or the American with Disabilities Amendment Act should be directed to the SAS Office.

Questions regarding NMSU’s Non-discrimination Policy and discrimination complaints should be referred to Gerard Nevarez, Office of Institutional Equity, 575-646-3635

GRADE APPEALS:
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.

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.

KEY DATES:

<table>
<thead>
<tr>
<th>Event</th>
<th>Day</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Residence halls open</td>
<td>Sunday</td>
<td>August 14</td>
</tr>
<tr>
<td>Faculty report</td>
<td>Monday</td>
<td>August 15</td>
</tr>
<tr>
<td>Fall convocation</td>
<td>Tuesday</td>
<td>August 16</td>
</tr>
<tr>
<td>Event</td>
<td>Day</td>
<td>Date</td>
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<td>--------------------------------------------------</td>
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<tr>
<td>Instruction begins</td>
<td>Thursday</td>
<td>August 18</td>
</tr>
<tr>
<td>Deadline for filing degree application (students meeting requirements at end of fall)</td>
<td>Thursday</td>
<td>August 26</td>
</tr>
<tr>
<td>Late registration</td>
<td>Tuesday</td>
<td>August 18</td>
</tr>
<tr>
<td>Labor Day holiday</td>
<td>Monday</td>
<td>September 5</td>
</tr>
<tr>
<td>Deadline for registration/course addition</td>
<td>Wednesday</td>
<td>August 29</td>
</tr>
<tr>
<td>Last day to drop with &quot;W&quot; (except courses carrying designated dates)</td>
<td>Wednesday</td>
<td>October 11</td>
</tr>
<tr>
<td>Last day to withdraw from the university</td>
<td>Friday</td>
<td>November 11</td>
</tr>
<tr>
<td>Thanksgiving holiday for students</td>
<td>Monday-Friday</td>
<td>November 21-25</td>
</tr>
<tr>
<td>EXAM WEEK</td>
<td>Monday-Friday</td>
<td>December 5-9</td>
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<tr>
<td>Last day of classes</td>
<td>Friday</td>
<td>December 9</td>
</tr>
<tr>
<td>Commencement</td>
<td>Saturday</td>
<td>December 10</td>
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<tr>
<td>Residence halls close</td>
<td>Saturday</td>
<td>December 10</td>
</tr>
<tr>
<td>Final grades due</td>
<td>Tuesday</td>
<td>December 13</td>
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