MSIS 4253/MSIS5253
Information Technology Risk Management, Planning and Mitigation
Spring 2016

Instructor: Dr. David Biros
Contact Info: 406 Business Building, Stillwater
Phone: (405) 744-7156
E-Mail: **David.Biros@okstate.edu**

Course Hours: MW 2:30-3:45PM

Course Location: ES 212

Office Hours: MW 1PM-2PM or by appointment

Contact: The best means of contacting me is via email. I check it daily. I **do not** like voice mail.

Distance Learning Support (for MSIS 4253.503 and MSIS 5253.503):
SSB Distance Learning Office
Email**:** spearsdistance@okstate.edu or (405) 744-4048

Course Description

This course examines factors of risk analysis in information technology and how management can plan to achieve an acceptable level of risk in the face of corporations desiring to open up their networks still further to partners, customers and mobile workers. Network security and IT auditing are at the top of almost every list of indispensable attributes of enterprise networks worldwide. In recognition that it is impossible to protect completely against all possible threats, this course explores the management of risk; that is, assessment of various threats, vulnerabilities, and criticality. Students will learn how to systematically identify and evaluate the importance of an organization's function, any groups of people at risk, and prioritizing actions needed to provide adequate and cost effective protection from attack. . Risk mitigation using state-of-the-art technologies and procedures will be discussed. Further, students will learn the basic procedures for information system certification and accreditation.

NOTE: This course has been redesigned to meet the requirements of CNSS certifications 4015 and 4016. Expect and increase focus on the certification and accreditation of information systems.

Course Objectives

Upon completion of this class, the student will be able to:

1. identify threats to and vulnerabilities of information and information systems common in a typical business setting. (LG2)

2. explain how various controls can mitigate threats and vulnerabilities, yet could also costly and counterproductive situations for the business (LG2)
3. understand the importance of information security controls and how they impact existing ethical dilemmas or create new ethical dilemmas in the work place (LG1);
4. identify ethical rules or principles that may be relevant to various ethical dilemma with respect to risk management and information security (LG1).
5. calculate the Annual Loss Expectancy (ALE) due to various threats and vulnerabilities by determining the probability of occurrence and impact of each (LG3)
6. calculate the Return on Investment (ROI) of various security controls and use a spreadsheet to sort and analyze both ALE and ROI data to select optimal controls (most effective/least cost) to meet the challenges of the threats and vulnerabilities (LG3&4)
7. devise new technological, operational or managerial controls and methods to mitigate information system threats and vulnerabilities (LG6)
8. conduct a thorough risk assessment an information system and document it in a certification package to be presented to an accreditation authority (AA) that the system is acceptable to operation in the organization network. (LG5)
9. clearly and concisely present the findings of the certification package in using a common presentation software (LG4)
10. understand the importance and criticality of data and information, and IT in support of business objectives and describe measures that can be taken to ensure the confidentiality, integrity, and availability of those organizational assets. (LG 4.3)
11. describe how information can be organized, standardized, aggregates and manipulated to produce identifiable trends and patterns promoting knowledge creation in support of business innovations and the achievement of core competencies and thus requires protection. (LG 4.2)
12. describe the core MIS functions required in the a typical modern company or industry and how they serve to protect critical information assets. (LG4.1)

Course Materials

The primary textbook for the course is:

> **Weiss, M.M and Solomon M.G. <u>Auditing IT Infrastructures for Compliance,</u> Jones and Bartlett (2011) ISBN: 978-07637-9181-0**

I will post accompanying slides on Desire to Learn (D2L) each week for your use.

Additional Materials will be drawn from a variety of sources, including the Internet and the following alternative texts.

> **NIST SP 800-30 REV 1, Risk Management Guide for Information Technology Systems**

NIST SP 800-37, REV 1: Guide for Applying the Risk Management Framework to Federal Information Systems

NIST SP 800-53, Rev 4, Recommended Security Controls for Federal Information Systems and Organizations

NIST SP 800-55, Performance Measurement Guide for Information Security

Online

We will be using online media extensively to supplement class sessions. Please check these online sources frequently. E-mail will be used for private communication to individual class members. I expect you to check your e-mail regularly, and to inform me of changes to your preferred address for receiving e-mail.

We will be using Desire to Learn (D2L) to assist with class communications this term. You should be able to login by linking to https://oc.okstate.edu/.

I will attempt to place soft copies of all lecture presentations on D2L prior to class, however, I can make no assurances that material made available online is the same as that presented in class, or that it will be a complete copy of the material presented. I reserve the right to add to or delete from this material at any time, without notice.

Attendance

Class attendance is expected. Since much of the material comes from lectures you will not be able to find it elsewhere. The slides only serve as an outline of the curriculum, and are a fraction of the information covered in class. If you do miss a class it is your responsibility to get notes from a classmate, etc.

Course Guidelines:

1. This course is intended to be an intensive train ride of risk management topics. We will cover many topics in brief this semester. The learning activities will consist of course readings, class lectures, discussions, and homework. If you don't understand the material, ask!

2. Grades will be assigned on the traditional (90 or above: A; 80-89: B; 70-79: C; 60-69: D, 59 or less: F) scale.

   a. The distribution of points for MSIS 4253 in-class students is as follows:

Exams (3 @ 100pts each)	300 Points
Team C&A/ITA Project	100 Points

Security Breach Projects	50 Points

b. This distribution of points for MSIS 4253 distance learning students is as follows:

Exams (3 @100pts each)	300 Points
Individual C&A/ITA Project	100 Points
Security Breach Projects	50 Points

c. Graduate students (MSIS 5253) will be required to submit a Disaster Recovery Plan and a Business Continuity Plan based on a scenario provided by the course instructor.

3. *Exams*

There will be three exams in class. Exams will include multiple choice, short answer, and essay questions. **ALL** material including presentation slides, lectures, student contributions, guest lectures, etc. may be included on the exams. The final is not comprehensive, but certain material presented early in the term may support topics in later sessions. Since all material is potentially testable, class attendance is of the utmost importance.

DL students will take their exams in testing centers. Please contact the distance learning office at (405) 744-4048 if you need information about the location of your testing center.

4. *Project*

There will be a system Certification and Accreditation (C&A) Project or IT Auditing project due near the end of the semester. Details of these two types of projects will be presented in class early in the term. All projects will be required to include an accompanying briefing to be presented near the end of the term. Traditional class students must be present at all presentation or take a 50% decrease in the project grade. DL students will be required to submit the presentation, but not present it.

5. Attendance/Participation

Attendance will be taken regularly and you will be expected to participate in class discussions. If you must miss a class, please let me know. Distance learning students will provide input to a D2L course drop box…details to be announced in class.

OSU/Class Policies

Attendance:

Learning in an evolving course such as MSIS 5253/MSIS 4253 occurs not only through the instructor's lectures, but also through the interaction taking place in class. You benefit from the diversity of backgrounds, experiences, and skill levels that are present in this class. **All** material presented in class may be included on the exams. This includes chapter material, supplemental information presented by the instructor, and assigned information provided by the class (e.g. term papers; special assignments). Further, sometimes materials and announcements are presented in class, but do not always get posted to D2L. Should you need to miss a class, please coordinate the absence with me well before the date of the class.

Academic Dishonesty:

All students are expected to observe OSU's honor code. Specifically, I expect all homework and projects to be completed individually. This is the only way we can all learn "by getting our hands dirty." It is OK (and even encouraged) to consult your classmates on the details of assignments and projects. However, the final submission should be yours and yours alone. Please also note that there are significant penalties for plagiarism. If your write-up is determined to include plagiarized material, it will receive a score of **zero**. Cheating on course exams or quizzes will result in a course grade of "F."

Cell Phones, I-Pods, Text Messaging, Etc.:

Please ensure your cell phones, pagers, PDAs are turned off or set to silent mode. Texting is not allowed once the course begins. While note taking on laptops and other portable devices is aloud, text messaging is not. If you have a laptop in the room, be prepared to research topical issues that may come up in class.

Extra Credit:

Occasionally, there may be opportunities for extra credit. Extra credit may be given to undergraduate students only. If an extra credit opportunity is presented to in class students, an equivalent opportunity will be afforded to DL undergraduate students. Requests by students for additional extra credit will be denied.

Special Accommodations for Students:

According to the American Disabilities Act, each student is responsible for notifying the University of his or her disability and to request accommodations. If you think that you need special help for qualified disabilities, please inform me **AND** contact the Office of Student Disability Services, 315 Student Union.

Tentative Course Schedule – Subject to Change as Required

DATE	TOPICS	PREPARATORY READINGS
Jan 11, 13	Faculty and student introductions. Course overview and syllabus review	**www.coso.org/Publications/ERM/COSO_ERM.ppt**
Jan 18, 20	**Jan 18 – University Holiday** Risk Management Basics ***Security Breach Assignments Introduced***	NIST SP 800-30 Rev 1
Jan 25, 27	Risk Management Basics ***IT Audit/C&A Project Introduced***	NIST SP 800-30, Rev 1
Feb 1, 3	Need for Compliance US Compliance Laws	Chapters 1 and 2
Feb 8, 10	Scope of Compliance Audit Auditing Standards and Frameworks	Chapter 3 and 4
Feb 22, 24	**EXAM 1 (Feb 22)** Planning an Audit for Compliance	Chapter 5
Feb 29 Mar 2	Conducting an Audit for Compliance Writing an Audit Report	Chapter 6 and 7
Mar 7, 9	Compliance within the User Domain Compliance with the Workstation Domain	Chapters 8 and 9
Mar 14, 16	**Spring Break!!**	
Mar 21, 23	Review Chapters 5-9 Compliance within the LAN Domain	Chapter 10
Mar 28, 30	**EXAM 2 (Mar 28)** Compliance within LAN-to-WAN	Chapter 11
Apr 4, 6	Compliance within WAN Domain Compliance within Remote Application	Chapters 12 and 13
Apr 11, 13	Compliance within Sys/App Domain Ethics, Education and Certifications	Chapters 14 and 15
Apr 18, 20	C&A Process	NIST SP 800-37, Rev 1

	Controls and Measures	NIST SP 800-53 and 55
Apr 25, 27	**Exam 3 (Apr 25)** C&A Presentation	
May 2, 4	C&A Presentations	

OKLAHOMA STATE UNIVERSITY
SYLLABUS ATTACHMENT
Spring 2016

http://academicaffairs.okstate.edu/

YOUR SUCCESS AS A STUDENT IS OUR TOP PRIORITY.
THIS INFORMATION IS PROVIDED TO ANSWER QUESTIONS MOST OFTEN ASKED BY STUDENTS.

IMPORTANT DATES

Last day to add a class (without instructor permission)	1/19/2016
Last day to drop a course with no grade and 100% refund	1/19/2016
Last day to add a class (requires instructor & advisor permission)	1/22/2016
Last day to drop a course or withdraw from the University with an automatic "W" and receive a partial refund (requires advisor signature)	1/22/2016
Last day to post 6 week grades	2/23/2016
Last day to file diploma application (for name to appear in Fall Commencement program)	4/1/2016
Last day to drop a class or withdraw from the University with an automatic "W"	4/8/2016
Last day to withdraw from all OSU classes with an assigned grade of "W" or "F"	4/22/2016
Pre-Finals week	4/25-4/29/2016
Final examinations	5/2-5/6/2016

Note: Outreach, Internet, and short courses have unique drop/add and refund deadlines; lookup the specific deadlines for these courses on the Short, Internet and Outreach Class Schedules page of the Registrar's website http://registrar.okstate.edu/SIO-Schedule.

Spring Semester Holidays

University Holiday	1/18/2016
Students' Spring Break	3/14-3/18/2016

DROPPING A COURSE AND WITHDRAWING FROM THE UNIVERSITY, students often confuse these terms. **Dropping a Course** (or courses) may occur during the first twelve weeks of the semester. This means, however, that you are still enrolled in at least one other OSU course. Exceptions to the deadlines above may only be considered by petition due to documented extraordinary circumstances and committee approval. The Retroactive Drop/Withdraw Petition and the Petition for a Refund of Tuition and Fees forms are available on the Registrar's website *http://registrar.okstate.edu/Forms*.

Withdrawing from the university means dropping ***all*** courses and you ***are no longer enrolled for the current semester***. This may occur until the Friday before pre-finals week. The withdrawal process is initiated with your academic advisor. For additional information and dates, go to*: HTTP://ACADEMICAFFAIRS.OKSTATE.EDU/CONTENT/ADDING-DROPPING-AND-WITHDRAWING-COURSES*

ALERTS AND RESCHEDULING

If the OSU campus officially closes due to inclement weather or other emergencies, alerts are provided to local news media and posted on the OSU website. Missed exams, classes, or assignments may be rescheduled at times outside the normal meeting schedule. If valid, documented circumstances prohibit students from attending the rescheduled classes, instructors should provide reasonable alternative means for makeup.

SEEK ANSWERS TO YOUR QUESTIONS

The OSU faculty and staff want you to be successful in your educational pursuits. If you have questions or concerns, seek help EARLY. We are here to assist you.

ACADEMIC INTEGRITY

101 Whitehurst, 405-744-5627 *http://academicintegrity.okstate.edu*

OSU is committed to maintaining the highest standards of integrity and ethical conduct. This level of ethical behavior

and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and altering academic records) will result in an official academic sanction. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript, and being suspended from the University. You have the right to appeal the charge.

COPYRIGHT & FAIR USE POLICY OF COURSE MATERIALS

Course materials may not be published, leased, sold to others, or used for any purpose other than appropriate OSU-related individual or group study without the written permission of the faculty member in charge of the course and other copyright holders. This paragraph grants you a limited license giving you access to materials for this course, including PowerPoint slides, audio/video recordings, written, or other materials, for appropriate OSU-related educational use only. Lectures should not be recorded without permission from the faculty member and must not be further disseminated or shared.

CLASS ATTENDANCE

Class attendance is a critical component of learning; therefore, you are expected to attend and participate fully in all scheduled class meetings. Many instructors consider attendance so essential that your grade may be affected by your absence. *SOME DEPARTMENTS AND PROFESSORS HAVE MANDATORY ATTENDANCE POLICIES*. If no written attendance policy is provided before the last day to add a class without instructor permission, no penalty may be assessed for class absences although you may not be permitted to make up certain in-class activities. If you are required to participate in official university-sponsored activities or military training, you should receive an excused absence unless the written course attendance policy indicates otherwise. If you will be absent from class for sponsored activities, you must provide prior notification of the planned absence to the instructor. You may be required to submit assignments or take examinations before the planned absence.

PRE-FINALS WEEK POLICY

Final examinations are scheduled at the end of each semester and are preceded by pre-finals week, which begins seven days prior to the first day of finals. During pre-finals week, all normal class activities will continue; however, no assignment, test, or examination accounting for more than 5% of the course grade may be given; and no activity or field trip may be scheduled that conflicts with another class. This excludes makeup and laboratory examinations, out-of-class assignments (or projects) made prior to pre-finals week and independent study courses.
No student or campus organization may hold meetings, banquets, receptions, or may sponsor or participate in any activity, program, or related function that requires student participation. For additional information, contact the Office of Academic Affairs, 405-744-5627, 101 Whitehurst.

FINAL EXAM OVERLOAD POLICY

In the event you have three or more final exams scheduled for a single day, you are entitled to arrange with the instructor of the highest numbered course (4 digit course number) or two highest, if you have four finals on one day, to re-schedule that examination(s) at a time and place of mutual convenience during final exam week. If the final exam overload includes a common final exam, the common final exam is excluded from rescheduling unless multiple common exams are scheduled at the same time. You should submit this request in writing, with a copy of your class schedule, at least two weeks prior to the beginning of final exam week. The instructor has one week prior to the beginning of final exam week to arrange a mutually convenient time and place for administration of the final exam. After one week, if an agreement cannot be reach, take the request to the department head.

INFORMATION TECHNOLOGY

Student Email - OSU uses your OKSTATE.EDU email address as a primary form of communication. Students are expected to check their OSU email on a frequent and consistent basis to remain informed of their official university business. If you do not use the OSU email system you must redirect your okstate.edu email using the Orange-Key System (www.okey.okstate.edu). Failure to maintain an accurate email address may result in missed or lost university communications. For email assistance contact the IT Helpdesk at 405-744-HELP (4357).

Computer Labs - A complete description of computer labs and hours of operations are available at their website: *https://it.sharepoint.okstate.edu/TechnologySupport/DeskSide/default.aspx*. Lab information is also available by calling the Information Technology Help Desk, 405-744-HELP (4357).

EDMON LOW LIBRARY HOURS *www.library.okstate.edu*

405-744-9775 or 405-744-9741	*Text 405-592-4128*
Monday-Thursday	7:00 a.m. – 2:00 a.m.
Friday	7:00 a.m. – 10:00 p.m.

Saturday 9:00 a.m. – 10:00 p.m.
Saturday and Sunday 9:00 a.m. – 2:00 a.m.
*For holiday and intersession hours, check *http://www.library.okstate.edu/services/hours.htm*

*Contact the following for information on hours of operation:

Architecture Library	405-744-6047
Curriculum Materials Library	405-744-6310
Veterinary Medicine Library	405-744-6655

GENERAL EXPECTATIONS OF STUDENTS

By enrolling at Oklahoma State University, you accept responsibility for complying with all University policies and contracts, and for local, state and federal laws on- or off-campus that relate to the University's mission. **The Student Rights and Responsibilities Governing Student Behavior** document explains the standards of behavior expected of you, processes in place for enforcing the rules, and the University's response to violations *http://studentconduct.okstate.edu/*

In general, the University expects you to respect the rights of others and authorities, represent yourself truthfully and accurately at all times, respect private and public property, and take responsibility for your own actions and the actions of your guests. Call 405-744-5470 for more information.

WHERE TO GO FOR HELP

Instructor - If you have questions regarding your class, talk to your instructor. Faculty members usually include their office hours and/or phone number in the class syllabus. If you cannot locate this information, set a time to meet with your instructor by speaking with
him/her prior to or immediately following your class session or check with the departmental office on when the instructor may be available.

Academic Advisor - All students will benefit by conferring with an advisor on a regular basis. If you do not know your advisor, or are unhappy with your advisor, talk to the Student Academic Services Director for your college.

Academic911.okstate.edu - Your online resource for academic and personal success, sponsored by Student Affairs.

Mathematics Learning Success Center
5th Floor, Edmon Low Library/405-744-5818 http://www.math.okstate.edu/
Tutors are available to answer questions for classes ranging from Beginning Algebra through Calculus II. Tutoring for Differential Equations and Linear Algebra is offered at specific times.

Writing Center
440 Student Union/405-744-6671 http://osuwritingcenter.okstate.edu
The Writing Center helps writers throughout the composing process; you should plan to visit early and often throughout the semester, not just the day before an assignment is due. Tutors will work with you to improve your brainstorming, organizational, and composing techniques.

Le**arning & Student Success Opportunity (LASSO) Tutoring Center**
021 Classroom Building/405-744-3309 https://lasso.okstate.edu/
LASSO offers free individual tutoring for a variety of courses.

University Counseling Services
320 Student Union/405-744-5472 or 405-744-7007 http://ucs.okstate.edu/
Professional counselors offer confidential personal and/or career counseling.

Office of Student Disability Services (SDS)
315 Student Union/405-744-7116 http://sds.okstate.edu/
According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of SDS. Please advise the instructor of your disability as soon as possible, and contact Student Disability Services, to ensure timely implementation of appropriate accommodations. Faculty has an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process to verify the existence of a qualified disability and identify reasonable accommodations.

Office of Equal Opportunity *408 Whitehurst/405-744-9153*

OSU is committed to maintaining a learning environment that is free from discriminatory conduct based on race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age or protected veteran status. OSU does not discriminate on the basis of sex in its educational programs and activities. Examples of sexual misconduct and/or sex discrimination include: sexual violence, sexual harassment, sexual assault, domestic and intimate partner violence, stalking, or gender-based discrimination. OSU encourages any student who thinks that he or she may have been a victim of sexual misconduct or sexual discrimination to immediately report the incident to the Title IX Coordinator (405-744-9153) or Deputy Title IX Coordinator (405-744-5470). Students may also report incidents of sexual misconduct or sex discrimination to a faculty or staff member, who is then required by federal law (Title IX) to notify the Title IX or Deputy Title IX Coordinator. If a reporting student would like to keep the details confidential, the student may speak with staff in the Student Counseling Center (405-744-5472) or the University's Victim Advocate (Suzanne Burks: 405-744-5458). For more information regarding Title IX violations, go to: *https://1is2many.okstate.edu/*.