Syllabi   Course Syllabi

1-2015

BMIS 391.01: Special Topics - Cybersecurity Management

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UNIVERSITY OF
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School of **Business Administration**

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Office Hours:
By appointment

Course Description

Learn the fundamentals of information security management techniques through real-world case studies. Each week, we will dissect a newsworthy data breach, such as the Target loss of 110 million credit card numbers or the "Operation Aurora" attack on Google. Students will analyze why the hack occurred, identify failures of information security management that contributed, and determine what the affected organization could have done to prevent the incident.

Throughout the class, we will use the CISSP Common Body of Knowledge (CBK) as our framework for information security management, studying one domain each week in-depth. We will also study important regulations and standards such as HIPAA, PCI DSS, and federal/state data breach notification laws as we review incidents in which regulated personal or financial information was breached. Along the way, we will discuss important news articles and whitepapers such as the Verizon Data Breach Investigations report and Mandiant's "APT1: Exposing One of China's Cyber Espionage Units."

For the final project, students will conduct an independent research project in cybersecurity management.

Program Mission Statement and Assurance of Learning

The University of Montana's School of Business Administration enhances lives and benefits society by providing a world-class business education in a supportive, collegial environment.

We accomplish this mission by acting on our shared core values of creating significant experiences, building relationships, teaching and researching relevant topics, behaving ethically, and inspiring individuals to thrive.

As part of our assessment process and assurance-of-learning standards, the School of Business Administration has adopted the following learning goals for our undergraduate students:
Learning Goal 1: SoBA graduates will possess fundamental business knowledge.
Learning Goal 2: SoBA graduates will be able to integrate business knowledge.
Learning Goal 3: SoBA graduates will be effective communicators.
Learning Goal 4: SoBA graduates will possess problem solving skills.
Learning Goal 5: SoBA graduates will have an ethical awareness.
Learning Goal 6: SoBA graduates will be proficient users of technology.
Learning Goal 7: SoBA graduates will understand the global business environment in which they operate.

Course Learning Goals

After completing this course, a student will be able to:
- Describe effective techniques for preventing and detecting information security incidents, using the CISSP Common Body of Knowledge (CBK) as a management framework;
- Make educated decisions regarding cost/benefit tradeoffs of cybersecurity implementations;
- Identify effective data breach response tactics;
- Critically analyze real-world cybersecurity incidents that are published in the news, and discuss the effectiveness of preventive measures and management response;
- Understand how high-level information security management directly impacts technical system security;
- Evaluate the effectiveness of an organization's cybersecurity program and make practical recommendations for improvement;
- Discuss key elements of federal regulations and industry standards such as HIPAA, PCI and data breach notification laws.
- Discuss key elements of cybersecurity management and evaluation standards such as NIST 800-53, ISO 27001, and the CSIS Top 20.
- Provide practical guidance for CIOs, CISOs and IT Security Managers seeking input on cybersecurity strategies.

Required Course Materials

CISSP Study Guide, Second Edition
Conrad, Misenar, Feldman
* ISBN-10: 1597499617
* ISBN-13: 978-1597499613

Course Grading Policies Students' mastery of the course material is assessed through homework, participation, and exams. This course must be taken for a letter grade. Plus grades are earned if within 2% of the next highest letter grade (e.g., 78% is C+). Minus grades are earned if within 2% of the next lowest letter grade (e.g., 81% is a B-)). Extra credit is not available. All grades are updated in Moodle on a periodic basis. Final course grades are non-negotiable.

Homework	35%
Quizzes	35%
Final Project	30%

Grading Scale:

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98 – 100 ..........................................................................................A+
90 – 97 ............................................................................................A
90 – 91 ............................................................................................A-
88 – 89 ............................................................................................B+
82 – 87 ............................................................................................B
80 – 81 ............................................................................................B-
78 – 79 ............................................................................................C+
72 – 77 ............................................................................................C
70 – 71 ............................................................................................C-
68 – 69 ............................................................................................D+
62 – 67 ............................................................................................D
60 – 61 ............................................................................................D-
00 – 59 ............................................................................................F
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Homework – Students will complete homework prior to most class periods using the online homework system in Moodle.   Most homework assignments will consist of Data Breach Analyses, in which students independently research a public data breach and answer specific questions. Students are allowed an unlimited number of attempts for each assigned problem. The system will not accept assignments after the exact due date/time, so do not put off submitting your answers. Technical difficulties are the student's responsibility, unless the homework system is down for some reason.

Quizzes – Students will complete quizzes prior to most class periods using the online quiz system in Moodle. Quizzes will be based on assigned reading for each week. Students are allowed one attempt for each assigned problem. The system will not accept assignments after the exact due date/time, so do not put off submitting your answers. Technical difficulties are the student's responsibility, unless the quiz system is down for some reason.

Final Project and Presentations – Students will select a final project topic during the last month of class. Topics are subject to instructor approval. Each student will produce a written report, a final presentation and a 5-minute video presentation, suitable for publication on YouTube. Final presentations will be conducted **Monday, May 11 at 1:10-3:10PM, room GBB 222.**

Tentative Schedule – changes may be announced in class

Note that each week, there will be a quiz and homework assignment due at noon on Tuesday, shortly before class.

Day	Date	Theme	Data Breach	Read Before Class	Guest/Tour
Tuesday	27-Jan	Overview	Target	N/A	N/A
Tuesday	3-Feb	Retail & Credit Card Incidents	Home Depot & URM Stores	PCI DSS 3.0	Secret Service Agent Tadd Downs
Tuesday	10-Feb	Access Control	Google "Operation Aurora"	"Chapter 1 & Chapter 2 (""Domain 1 - Access Control"") Relevant breach news articles and analyses	Tour of UM Data Centers
Tuesday	17-Feb	Network Security	RSA 2011 Breach	Chapter 3 - "Telecommunications and Network Security" Mandiant "APT1" Paper Relevant breach news articles and analyses	Adrian Irish, University of Montana IT Security Manager Karen Sprenger, LMG Security Director of Operations
Tuesday	24-Feb	Information Security Governance & Risk Management	JP Morgan 2014	Chapter 4 - Information Security Governance & Risk Management CSIS Top 20 Relevant breach news articles and analyses	Jay Combs, Supervisory Examiner, Federal Reserve
Tuesday	3-Mar	Software Development Security	HB Gary	Chapter 5 - Domain 4 - Software Development Security OWASP Relevant breach news articles and analyses	Missoula Federal Credit Union-Tour and Visit with Senior Risk Manager Jason Kolberg

Tuesday	10-Mar	Healthcare Industry & Cryptography	Childrens Hospital Boston	Chapter 6 - Domain 5 - Cryptography HIPAA Security Rule Relevant breach news articles and analyses	Tour of Community Medical Center
Tuesday	17-Mar	Security Architecture & Design	Stuxnet	Chapter 7 - Domain 6 - Security Architecture and Design Symantec Internet Security Threat Report Relevant breach news articles and analyses	Tour of Blackfoot Telecommunications
Tuesday	24-Mar	Operations Security	TJ Maxx	Chapter 8 - Domain 7 - Operations Security Verizon Data Breach Investigations Report Relevant breach news articles and analyses	TBD
Tuesday	7-Apr	Business Continuity and Disaster Recovery Planning	Sony Playstation & 2014 Breach	Chapter 9 - Domain 8 - Business Continuity and Disaster Recovery Planning ISO 27001 & ISO 22301 Relevant breach news articles and analyses	Tour of midsized law firm
Tuesday	14-Apr	Legal, Regulations, Investigations & Compliance	Montana DPHHS & Massachusetts Labor Dept. Breach	Chapter 10 - Domain 9 - Legal, Regulations, Investigations & Compliance Montana Data Breach Law Relevant breach news articles and analyses	Visit from State of Montana CIO, Ron Baldwin, and CISO, Lynne Pizzini
Tuesday	21-Apr	Physical (Environmental) Security	Veteran's Administration (VA)	Chapter 11 - Domain 10 - Physical (Environmental) Security Relevant breach news articles and analyses TBD	Visit from physical security specialists: Deviant Ollam, Physical penetration testing (CORE Group) Mark McMillan, Access Lock & Security Kelly Gregory, Montana Security and Communications

Tuesday	28-Apr	FINAL PROJECTS
Tuesday	5-May	FINAL PROJECTS
Monday	11-May	FINAL PROJECT PRESENTATIONS

Course Assistance – Success in this course requires keeping up with the material and actually understanding it as it is covered. For this reason, completing homework in preparation for every class period is required. Falling behind or lacking an understanding of topics will become increasingly problematic as the course progresses, as material builds on prior concepts as we move along. Students are strongly encouraged to schedule office hours for course assistance, guidance, and accounting career advising.

Drops and Incomplete Grades – This course follows published UM policies on drop dates and incomplete grades. These are excerpted below.

Drop dates – Please see the following links for important dates and policies:
http://www.umt.edu/registrar/students/dropadd.php
http://www.umt.edu/registrar/PDF/Spring2015ImportantDates.pdf

Incompletes – Policy per the UM catalog: "Incomplete grades are not an option to be exercised at the discretion of a student. In all cases it is given at the discretion of the instructor within the following guidelines. A mark of incomplete may be assigned students when (1) the student has been in attendance and doing passing work up to three weeks before the end of the semester, and (2) for reasons beyond the student's control and which are acceptable to the instructor, the student has been unable to complete the requirements of the course on time. *Negligence and indifference are not acceptable reasons.*"

Behavior Expectations

Professionalism – Students are preparing to become business professionals, and professional behavior is expected at all times. Students are expected to abide by the SoBA Code of Professional Conduct (found online at http://www.business.umt.edu/Soba/SoBAEthics/CodeofProfessionalConduct.aspx). Treat class sessions like business meetings. Failure to adhere to these expectations may result in being asked to leave the classroom. In addition, students will

- Remain in the class for the duration of class time (no in and out or leaving early)
- Bring all materials needed for class
- Refrain from using any technology, including cell phones, not required for the class conduct at that time
- Being an active listener – not talking while others, including the instructor, are talking.

Email -- According to University policy, faculty may only communicate with students regarding academic issues via official UM email accounts. Accordingly, students must use their UM accounts. Email from non-UM accounts will likely be flagged as spam and deleted without further response. To avoid violating the Family Educational Rights and Privacy Act, confidential information (including grades and course performance) will not be discussed via phone or email. All email communications should be professional in tone and content. A professional email includes a proper salutation, grammar, spelling, punctuation, capitalization, and signature.

Exam/Quiz Conduct – Students must take exams and quizzes on their regularly scheduled days unless they have an excused absence. Excused absences ONLY include (1) University-approved absences, (2) documented health emergencies, (3) civil service such as military duty and jury duty, and (4) other emergencies deemed appropriate by the instructor. In all cases, the instructor must be notified prior to the exam unless the emergency makes such notification infeasible. During the exam, you may not leave the room for any reason. Doing so results in the conclusion of that student's exam. Students must use an approved calculator (see

required materials section above). If a student forgets a calculator, the student will work the math by hand. Electronic dictionaries, cell phones, tablets, laptops, notes, or other assistive items are not allowed. Students may be using Scantron forms to complete a portion of each exam, and the Scantron form must be completed prior to the exam end time. For these questions, only answers on the Scantron are graded, so complete it with care.

Academic Misconduct -- All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. The University of Montana Student Conduct Code specifies definitions and adjudication processes for academic misconduct and states, "Students at the University of Montana are expected to practice academic honesty at all times." All students need to be familiar with the Student Conduct Code. It is the student's responsibility to be familiar the Student Conduct Code (found online at http://www.umt.edu/vpsa/policies/student_conduct.php).

The School of Business Administration endorses academic honesty as a pillar of integrity crucial to the academic institution. Academic honesty is an important step towards developing an ethical backbone needed in a professional career. Failure to practice academic honesty is considered academic misconduct. Academic misconduct will be penalized to the fullest extent. Students are expected to:
- Be knowledgeable of activities that are considered academic misconduct, as defined in section V.A. of the UM Student Conduct Code,
- Practice academic honesty on all exams, quizzes, homework, in-class assignments, and all other activities that are part of the academic component of a course,
- Encourage other students to do the same.

Confusion may arise in what is and is not academic misconduct. Students should ask if they are unsure if a behavior will be viewed as academic misconduct. A good rule of thumb is that any credit-earning activity in a course should represent the true skills and ability of the person receiving the credit. A partial list of situations that are considered academic misconduct is in the SoBA Professional Code of Conduct (found online at http://www.business.umt.edu/Soba/SoBAEthics/CodeofProfessionalConduct.aspx). If at any point a student is unsure if working with another student is permissible, that student should contact the instructor before doing so.

Disability Services for Students -- Students with disabilities will receive reasonable modifications in this course. The student's responsibilities are to request them from me with sufficient advance notice and to be prepared to provide official verification of disability and its impact from Disability Services for Students. Please speak with me after class or during my office hours to discuss the details. For more information, visit the website for the office of Disability Services for Students (found online at http://www.umt.edu/dss/).

Grievance Procedures – The formal means by which course and instructor quality are evaluated is through the written evaluation procedure at the end of the semester. The instructor and department chair receive copies of the summary evaluation metrics and all written comments sometime *after* course grading is concluded. Students with concerns or complaints during the semester should first communicate these to the instructor. This step almost always resolves the issue.   If the student feels that the conflict cannot be resolved after meeting with the instructor, the student should contact the department head. If, after speaking with the department head and the instructor, the student still feels that the conflict has not been resolved, contact the Associate Dean of the School of Business Administration