CYBR 4511: GRC: Cybersecurity Risk Management

TR 2 - 2:50 pm Morgan Science Building 107

Spring, 2024, 3 credits

Professor: Thomas Hill Office: McLeod 205

Office Hours: T 2-5 & TR 2-5; Fridays by Appointment Phone: 828-320-4458

E-mail: Thomas.hill@montreat.edu

**Course Description**

This course allows students to evaluate Risk Management frameworks, learn step by step how to perform a risk assessment, how to map an organization's business requirements to implement security controls, the elements of risk assessment, and the data necessary for performing an effective risk assessment, and what in-depth risk management models exist for implementing a deeper risk management program in an organization. Students will learn how an organization identifies, assesses, and mitigates cyber risk and how to strengthen current cybersecurity controls. Prerequisite: CYBR 3511 Governance & Management of Cybersecurity

**Course Objectives/Outcomes**

Objectives to be met by each student in this course include the following:

* Articulate the role and importance of risk management in the cybersecurity process;
* Identify issues associated with risk and generic risk management;
* Describe the form and content of the risk management process;
* Describe the concept and usefulness of standard best practice in risk management;
* Identify and explain the structure and intent of risk-oriented frameworks;
* Identify and explain the application and development of risk-based strategy;
* Differentiate between common risk management models and frameworks;
* Describe the role and application of risk management frameworks;
* Demonstrate ethical behavior appropriate to security-related technologies
* Discuss steps to select, implement, document, and assess security controls; and
* Work in virtualized environments.

**The following topics will be covered:**

1. Organizational Security Risk Management
2. Risk Management Frameworks
3. Security Controls
4. Monitoring Security State
5. Access Control Fundamentals
6. Risk Mitigation

**COLLEGE LEARNING OBJECTIVES AND CYBERSECURITY DEPARTMENT PROGRAM GOALS**

This course supports the following learning objectives and program goals:

**Program Goal 3. Knowledge and experience in Cybersecurity to support organizational mission and goals.** Consistent with Montreat College Education Objective, E.O. 1d. - Demonstrate competency in their academic major.

**Program Goal 4. Critical thinking, analytical, and problem-solving skills.** Consistent with Montreat College Education Objective E.O. 1b: The student will demonstrate critical thinking and problem-solving skills.

**Montreat College’s Quality Enhancement Plan**

The goal of Montreat College’s Quality Enhancement Plan, *T2I: Think to Impact*, is to develop the critical thinking skills of students so that they can graciously impact the world around them.

**Textbook(s)**

Title of Book: Auditing IT Infrastructures for Compliance (Information Systems Security & Assurance) 3rd Edition

ISBN: 978-1284236606

Author: Robert Johnson, Marty Weiss, & Michael Solomon

Publisher: Jones & Bartlett Learning

Edition: 3rd edition

**Grading Scale**

1. Assignments and Labs 40%
2. Course Project/s 20%
3. Tests 20%
4. Final Examination 20%

**Letter Grade:**

**A 96-100 C 70-75**

**A- 90-95 D+ 66-69**

**B+ 87-89 D 63-65**

**B 83-86 D- 60-62**

**B- 80-82 F 59 and below**

**C+ 76-79**

**Course Protocols**

**Attendance Policy**

Students are permitted up to 2 unexcused absences per semester for a class that meets 2 times a week and 3 unexcused absences for a class that meets 3 times per week. Note, 3 unexcused tardy’s is equal to 1 unexcused absence. If you miss more than three weeks of class in a row, without any interactions – you will be administratively dropped from the class. This action could have an impact on financial aid. If a student has more than the allowed number of unexcused absences, the student’s final grade will be negatively impacted as follows:

Number of unexcused absences and percent loss:

|  |  |
| --- | --- |
| **2 classes per week** | **3 classes per week** |
| 3 – 6% grade loss | 4 – 5% grade loss |
| 4 – 12% grade loss | 5 – 10% grade loss |
| 5 – 18% grade loss | 6 – 15% grade loss |
| 6 – 24% grade loss | 7 – 20% grade loss |
| 7 – 100% grade loss | 8 – 25% grade loss |
|  | 9 – 30% grade loss  10 – 100% grade loss |

**Academic Integrity Policy**

**Definition of Academic Dishonesty -** Academic dishonesty, such as cheating on tests and plagiarizing essays, violates the fundamental trust underlying all academic work: that the work be the product of the student who submitted it. Montreat College defines academic dishonesty as the representation of another’s words, ideas, or images as one’s own. It applies equally to intentional and unintentional quotations, paraphrases, visual images, auditory images, and all electronic means of storage and communication. This definition includes generative AI. Students should only use generative AI with explicit permission from their instructor, and with proper attribution. Academic dishonesty results in the following action:

**Discipline of Academic Dishonesty -** When a professor suspects a student of academic dishonesty, the professor will meet with the student(s) to discuss the incident and to determine to the faculty member’s satisfaction whether or not academic dishonesty has occurred. If, in the instructor’s judgment, such a violation of academic integrity has occurred, the faculty member will present the charges in writing to the student. The only possible disciplinarian actions are, (1) a “zero” for the assignment, or (2) an “F” for the course. A student may choose to admit his or her guilt of Academic Dishonesty and waive a hearing. This involves signing the Academic Dishonesty Notice outlining the disciplinary action. The Academic Dishonesty Notice will then be put on file in the registrar’s office. The record(s) regarding academic dishonesty will be retained until the student successfully graduates. A student who does not agree to the professor’s charges must appear before a panel of three faculty members appointed by the Associate Dean for Learning, Calling, and Career on charges of academic dishonesty. During the intervening period, a student is expected to continue to attend class. The panel will convene a hearing with the student and the professor at which time the faculty member will explain the student’s alleged violation. A student may choose to counter with evidence of his or her innocence or may admit guilt.

**Consequences for Academic Dishonesty -** If the panel indicates, by simple majority vote, that the student has been dishonest, the panel shall uphold the penalty assessed by the professor. The Associate Dean for Learning, Calling, and Career will notify the student, professor, advisor, and Registrar in writing of the panel’s decision. If the student received a failing grade for the course the student may remove the impact of the "F" on the grade point average by successfully retaking the course. Two incidents of academic dishonesty will result in a student’s being subject to **dismissal** from the college. If the panel finds the student not guilty of academic dishonesty, it will notify both the student and the faculty member.

If the student wishes to drop the course but has been found guilty of academic dishonesty, the student will have a “WF” recorded on the transcript if the time has passed for dropping courses. If the student wishes to drop the course within the time frame for dropping without a penalty, he or she may do so, but the Academic Dishonesty Notice will be kept on file if the student has admitted or been found guilty of academic dishonesty. In all instances the record(s) regarding academic dishonesty will be retained until the student graduates.

**Exoneration of Academic Dishonesty -** If exonerating evidence becomes available in the five business days following notification, a student may appeal to the Associate Dean for Learning, Calling, and Career. Appeals will only be heard if they meet one of the following conditions: (a) Discovery of new evidence; (b) Violation of procedure. A student must remain in the class and work toward its successful completion during the appeal process. The student will be notified in writing of the final decision.

**Policy on use of generative AI in this course –** Generative AI is strictly prohibited for filling in or generating reports and/or projects, presentations, assignments, tests, discussion boards, etc. However, this does not prevent the student from using AI/ML, any model or service, to further their understanding of concepts, how-to-steps, troubleshooting, and terminology, nor does it prohibit the use of such services and systems to proofread, assisting with debugging, or testing (testing in this context is strictly for student-produced works not provided tests by instructors unless stated otherwise). Using AI/ML tool(s) to assist with research is permitted but should be credited in either an appendix or, in the case of image or graph generation, below the image or graph generated and used. Should AI-generated content be submitted as student work, all policies and clauses for academic dishonesty will apply.

**Disabilities Policy**

Students with disabilities who may need academic accommodations are asked to speak with the professor within the first two weeks of class.  Students are also responsible for making sure that proper documentation of the disability is on file with the college Disability Services Coordinator, Ashley Rhymer. The office is located in the Thrive Center in the main level of Bell Library (Room 106).  The Disability Services Coordinator may be reached by phone at 282.222.0054, or at extension 3546, or by email at [ashley.rhymer@montreat.edu](mailto:ashley.rhymer@montreat.edu). Failure to inform the professor of a disability or provide appropriate documentation to the Disability Services Coordinator may compromise our ability to provide the accommodations needed in a timely manner. For more information about Montreat College disability services, see: <http://www.montreat.edu/academics/academic-support-services/disability-services/>

**Course Participation/Technology Expectation Policy**

Personal use of technology by students in the classroom is generally not permitted. Exceptions may be made at the discretion of the professor.

**Final Exam Policy**

A student absent without excuse from a final examination may receive a failing grade in the course. Excuses from final exams are extremely rare and are granted at the discretion of the Vice President for Academic Affairs & Dean of the College and only in the case of illness or death in the immediate family. Exams will not be given early in order to meet the travel plans of students. Students are to arrange all transportation well in advance in order to avoid conflict with the exam schedule. (See the Academic Catalog and/or your student handbook for more details.)

**Library**

The Montreat College Library is an integral part of Montreat College’s academic program. The staff, collection and services support the educational program and information needs of the faculty and students, both on and off campus. Services include a library instruction program for undergraduate and graduate students, reference services, access to online databases, and interlibrary loan. Staff members provide orientation to the library for students and work closely with the faculty to offer instruction to individual classes. Librarians are available to assist students in locating information via the Internet and in the use of electronic reference sources. The library’s collection offers access to information in all formats. Resources include books, periodicals (print and electronic), online databases, videos, DVD’s, and compact disks. The audiovisual department provides materials and equipment to support and supplement the instructional program. Online services include NC LIVE, JSTOR, and many other databases. To begin searching for library resources visit: [www.montreat.edu/library](http://www.montreat.edu/library). Additionally, you can email [reference@montreat.edu](mailto:reference@montreat.edu) with any questions 24/7.

**Academic Support**

The Thrive Center, located in the L. Nelson Bell Library, is available to help you with study skills and other valuable resources. Stop by the library, or they can be contacted at [thrive@montreat.edu](file:///C:\Users\linda.neuzil\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\N2NAM5DK\thrive@montreat.edu)

**Writing Center**

To write a successful essay, you will need to follow a process of brainstorming, planning, writing, and revising your essays.  The Writing Center tutors will work with you one-on-one on any or all stages of the writing process.  This academic service is available to assist you in becoming a confident and competent writer.  The Writing Center is not an editing service but a dynamic space for learning about writing through thoughtful conversations with peer tutors. Sessions usually last 20 minutes, but please be aware that more than one session may be necessary in the process of writing an essay.

The Writing Center is located in Library 105 and is open Sunday – Thursday. Our normal hours of operation are between 6:00 and 11:00 pm. An appointment is *not* necessary, but please be aware that the Writing Center is crowded when a professor assigns a Writing Center visit to a whole class, so don’t wait until the last minute.  You may contact The Writing Center at [writing](mailto:writing)tutor@montreat.edu if you have questions.  We are now offering Daytime Writing Scholars to be available during limited hours in the Thrive Center for writing consultations. Hours will be announced via e-mail early in the semester and posted on the library/Thrive Center web page as well as at the Thrive Center. Daytime Writing Scholars will also have contact information posted so that you can let them know you’re coming and/or send in your essay for them to read prior to the consultation. In addition, please know that an excellent internet resource is available to you at all times‑‑Purdue University’s OWL (On‑line Writing Lab).  This site provides an authoritative resource for composition, grammar, and citation.  The address is [http://owl.english.purdue.edu/](https://e3kmail.montreat.edu/exchweb/bin/redir.asp?URL=http://owl.english.purdue.edu/)

**Email Policy**

It is expected that each student check email daily to ensure that no communication is missed. Your @montreat.edu email account is the official means of communication for this course.

**Course Schedule**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| Week 1 | Chapter 1: The Need for Information Systems Compliance |  | Intro Discussion Board |  |
| Week 2 | Chapter 2: Overview of U.S. Compliance Laws | T0102: Evaluate the effectiveness of laws, regulations, policies, standards, or procedures. | Discussion Board 2: Summary & Impact  Assignment: Compliance Law & Industry |  |
| Week 3 | Chapter 3: What is the Scope of an IT Compliance Audit? | T0025: Communicate the value of information technology (IT) security throughout all levels of the organization stakeholders. | Discussion Board 3: Challenges to Scope | **Submit: Assessment 1 & 2** |
| Week 4 | Chapter 4: Auditing Standards & Frameworks |  | Assignment: Communicating Values & Setting Goals | **Submit: Compliance Law & Industry** |
| Week 5 | Chapter 5: Planning an IT Infrastructure Audit for Compliance |  | Assignment: Review Previous Audit | **Submit Assessment 3 & 4** |
| Week 6 | Chapter 6: Conducting an IT Infrastructure Audit for Compliance |  | Discussion Board 4: Importance of the Audit | **Present: Communicating Values & Setting Goals** |
| Week 7 | Chapter 7: Writing the IT Infrastructure Audit Report |  |  | **Submit Assessment 5 & 6** |
| Week 8 | Chapter 8: Compliance Within the User Domain |  |  |  |
| Week 9 | Chapter 9: Compliance Within the Workstation Domain | T0247: Write instructional materials (e.g., standard operating procedures, production manual) to provide detailed guidance to relevant portion of the workforce. | Assignment: Instructing the Front Lines | **Submit Assessment 7 & 8** |
| Week 10 | Chapter 10: Compliance Within the LAN Domain |  |  | **Submit: Instructing the Front Lines** |
| Week 11 | Chapter 11: Compliance Within the LAN-to-WAN Domain |  | Discussion Board 5: Failure to Comply | **Assessment 9 & 10** |
| Week 12 | Chapter 12: Compliance Within the WAN Domain |  |  |  |
| Week 13 | Chapter 13: Compliance Within the Remote Access Domain |  |  | **Assessment 11 & 12** |
| Week 14 | Chapter 14: Compliance Within the System/Application Domain | T0442: Create training courses tailored to the audience and physical environment. | Assignment: Manager’s Course |  |
| Week 15 | Chapter 15: Ethics, Education, and Certification for IT Auditors |  | Discussion Board 6: Ethics, Educations & Business Decisions | **Assessment 13, 14 & 15** |
| Finals |  |  |  | **Teach Course** |

**Optional Miscellaneous Faculty/Course Items**

NOTE: The professor reserves the right to alter or adjust this course schedule in order to meet the needs of the class/course if they are to change as we progress through the semester.