Department of Applied Information Technology

Volgenau School of Engineering

IT 223 Information Security Fundamentals
Spring 2015

Common Syllabus

revised 10/16/2014

This syllabus contains information common to all sections of IT 357 for the Spring 2015 semester. Information specific to each section will be made available to registered students via the Blackboard course management system.

University Policies

The University Catalog is the central resource for university policies affecting student, faculty, and staff conduct in university affairs. Unless explicitly noted, any conflict between the policies in the University Catalog and the content of this document is unintentional. Please notify the author to resolve any such conflicts.

Please note that the Academic Year runs from the Fall semester of one calendar year through the Spring and Summer semesters of the following calendar year. Please be sure to select the correct archived Catalog if appropriate.

Scheduled Sections

Section	Instructor	Campus	Day	Time
002	Prof. Tenally	Prince William	Mondays	7:20–10:00 p.m.
DL1	Prof. Tenally	Online		

Course Description

IT 223 - Information Security Fundamentals

Credits: 3

Covers computer crime, relevant laws, agencies, and standards. Presents auditing, logging, forensics, and related software. Explores legal principles such as chain of evidence, electronic document discovery, eavesdropping, and entrapment. Students get hands-on experience with forensics tools.

Equivalent to CRIM 304

Prerequisite(s): IT 103 and IT 223. Prerequisite enforced by registration system.

Notes: Students cannot receive credit for both IT 222 and 357.

Hours of Lecture or Seminar per week: 3

From http://catalog.gmu.edu/preview_course.php?catoid=25&coid=255081

Prerequisites

The prerequisites for this course are IT 103 and IT 223. A grade of "C" or better **must** be achieved in each prerequisite course **before** a student is qualified to take this course. The prerequisite courses must be completed prior to, not concurrently with, this course.

This requirement will be **strictly enforced**. Any student who does not meet the prerequisite requirement (or receive a waiver) will be dropped from the course at the start of the semester and the student will be responsible for any consequences of being dropped.

Rationale

This course is intended to help prepare students for careers in homeland defense, law enforcement, or commercial IT security, and for graduate work in security, information systems, or law.

Students will learn the principles of computer investigations and digital evidence. They will learn about jurisdiction, chain of evidence, and legal authority. Social, legal, and ethical implications will be carefully considered. Hands-on exercises will give students experience imaging disks, recovering system files, and analyzing logs on both Windows and Linux platforms.

Course Applicability

IT 357 is an option in the Information Security (INFS) concentration of the AIT major, an elective in the AIT minor, and an elective in the Criminology, Law and Society major and minor.

Objectives

On successful completion of this course, students will:

- Understand the legal and technical aspects of computer forensics.
- Understand applicable laws, and the roles of legal authorities.
- Understand how to obtain and handle digital evidence,

Course-specific Hardware/Software

Students need access to a computer with VMWare (Windows version) installed to complete labs. These programs are available to students at no cost through Mason. Additional information will be provided on Blackboard. Some assignments will require additional software installation. Software downloads will be available online at no cost.

Faculty and Staff

Course Coordinator:
Michael X. Lyons

Instructors:
Section 002 Rebecca Tenally
Section DL1 Rebecca Tenally

Teaching Assistant:
To be assigned – see Blackboard

Administrative support:
Cindy Woodfork
Prince William campus
Bull Run Hall, Suite 102
Email: cwoodfo1@gmu.edu
Phone: 703-993-8461

References

Textbooks

There are two required textbooks for this course:

	Computer Forensics: Investigation Procedures and Response, 1st edition EC-Council © 2010, Cengage Learning, Inc. Publisher's pricing (as of 10/14/2014): Paperback $65.99 Electronic $65.99 Rental $12.99 This textbook is available for rental at a price significantly lower than the other formats. See the publisher's Web page for more information.
	Computer Forensics: Hard Disk and Operating Systems, 1st edition EC-Council © 2010, Cengage Learning, Inc. Publisher's pricing (as of 10/14/2014): Paperback $65.99 Electronic $65.99 Rental $12.99 This textbook is available for rental at a price significantly lower than the other formats. See the publisher's Web page for more information.

Grading

Grades will be awarded in accordance with the Mason Grading System for undergraduate students. See the University Catalog, Academic Policies, AP.3.1 Undergraduate Grading for more information.

The grading scale for this course is:

97 – 100%	A+	Passing
93 – 96%	A	Passing
90 – 92%	A-	Passing
87 – 89%	B+	Passing
83 – 86%	B	Passing
80 – 82%	B-	Passing
77 – 79%	C+	Passing
73 – 76%	C	Passing
70 – 72%	C-	*Passing**
60 – 69%	D	*Passing**
0 – 59%	F	**Failing**

* Grades of "C-" and "D" are considered passing grades for undergraduate courses. However, a minimum grade of "C" is required in the AIT major for any course that is a prerequisite for one or more other courses. This course is a prerequisite for several courses in AIT Concentrations – see the University Catalog for course descriptions including prerequisite requirements.

Raw scores may be adjusted by the Instructor to calculate final grades.

Final grades will be based on the following components:

Class Work	15%
Case Study Report	10%
Quizzes	10%
Project	25%
Mid term exam	20%
Final exam	20%

Class Work (Labs and In-Class Assignments)

Labs and other exercises will be assigned in class. Class sessions will include time in a computer lab classroom. Students are expected to attend every class session and work on labs during class time; some labs may require additional time outside of the class session. Any student who misses an in class assignment due to an unexcused absence will receive zero (0) for that assignment.

Note: Online sections do not meet in person and will not have in-class assignments. Other coursework will be assigned for those sections to determine this grade component.

Case Study Reports

Each student is required to research a case study related to course content, as directed by the Instructor. The student will write a summary and analysis, and submit the report as directed.

Quizzes/Blogs

Quizzes will be given in selected classes throughout the semester, and will not be announced in advance. Any student who misses a quiz due to an unexcused absence will receive zero (0) for that quiz. Blog topics may be posted to a discussion board in Blackboard in response to lectures or current events. Each student is required to respond to the topic on the discussion board by the date specified by the Instructor.

Project

The Instructor will assign a project that will involve both group and individual activities. Each student individually will prepare and submit a project in accordance with requirements to be discussed in class.

Mid-term exam

The mid-term exam will be conducted during the 5th scheduled class session and will be based on topics addressed in Lectures 1-4. The mid-term exam will be "closed book" – no reference materials other than those provided with the exam paper will be permitted. Mid-term exams will be returned to students once all mid-term exams for all sections have been graded.

Students in online sections are required to attend an exam session (to be scheduled) in person, or to arrange for a proctored exam.

Final exam

The final exam will be held during the scheduled final exam session (see the Spring 2015 Final Exam Schedule) and will be based on topics addressed throughout the entire course. The final exam will be "closed book" – no reference materials other than those provided with the exam paper will be permitted. Final exams will be retained by the Department of Applied Information Technology and will not be returned to students.

Students in online sections are required to attend an exam session (to be scheduled) in person, or to arrange for a proctored exam.

Students are expected to submit work as scheduled by the Instructor. Any assignment submitted after the due date-time but within 24 hours of it will be graded with a penalty of 25% of the available credit. Any assignment submitted more than 24 hours late will not be graded.

Mid-term and final grades will be posted to PatriotWeb, which is the only mechanism for students to obtain those grades. A student with a "hold" on his/her PatriotWeb account will be unable to access grades until the hold has been removed by the Registrar.

Schedule

Week	Content
1	Introduction to course/syllabus/policies Introduction to Computer Forensics
2	Crime & Law – part 1
3	Crime & Law – part 2 Search & seizure; Crime scene procedures
4	Hardware forensics Review for mid-term exam
5	**Mid-term exam** Class work
6	Software/Windows Forensics – part 1
7	Software/Windows Forensics – part 1
8	Individual project lab time
9	Linux, Unix, Mac file systems and forensics
10	Cell phone forensics; Password cracking
11	Network forensics, Logging and auditing
12	Field Trip Activity
13	*to be determined*
14	Review for final exam
–	**Final exam**

This schedule is subject to revision before and throughout the course.
Registered students should see Blackboard for the latest class schedule.

Important Dates

Please see the Spring 2015 Semester Calendar for important dates, including the last days to add and drop courses.

Religious Holidays

A list of religious holidays is published by University Life. Any student whose religious observance conflicts with a scheduled course activity must contact the Instructor ***at least 2 weeks in advance*** of the conflict date in order to make alternative arrangements.

Attendance Policy

Students are expected to attend every class, to complete any required preparatory work (including assigned reading – see **Schedule** above) and to participate actively in lectures, discussions and exercises. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter.

Students are expected to make prior arrangements with Instructor if they know in advance that they will miss any class and to consult with the Instructor as soon as possible if they miss any class without prior notice. Any student who expects to miss more than one class session is **strongly advised** to drop the course and take it in a later semester when he/she can attend every class.

Mason policy requires students to take exams at the scheduled time and place, unless prior approval is granted by the student's academic dean or director. Failure to attend a scheduled exam will result in a score of zero (0) for that exam. Please note that exams may be re-scheduled by the Registrar to compensate for disruptions in the semester schedule and students are expected to be available throughout the exam period including the scheduled Make-up Day.

Classroom conduct

Students are expected to conduct themselves in a manner that is conducive to learning, as directed by the Instructor. Any student who negatively impacts the opportunity for other students to learn may be asked to leave the classroom.

Electronic devices are potential distractions in the classroom environment. All electronic devices must be turned off or set to "silent" mode at all times unless the Instructors directs otherwise. In order to maximize student engagement the Instructor may prohibit use of such devices.

Communications

Registered students will be given access to a Blackboard section for this course. Blackboard will used as the primary mechanism (outside of lectures) to disseminate course information, including announcements, lecture slides, homework and other assignments, and scores for homework and exams. Some announcements may be sent via Blackboard to students' Mason email accounts.

Communication with the Instructor on issues relating to the individual student only should be conducted using Mason email, via telephone, or in person - **not** in the public "Discussions" forums on Blackboard. To protect student privacy any communication related in any way to a student's status must be conducted using secure Mason systems – if you use email to communicate with the Instructor you **MUST** send messages from your Mason email account. Students must activate and monitor their Mason email accounts to receive important information from the University, including messages related to this class.

Lecture slides are complements to the lecture process, not substitutes for it - access to lecture slides will be provided in Blackboard as a courtesy to students provided acceptable attendance is maintained.

All course materials (lecture slides, assignment specifications, *etc*) are published on Blackboard in Adobe® Portable Document Format (PDF). This allows users of most computing platforms to view and print these files. Microsoft® Word (or a compatible word processing application) is required for preparing assignments – it is available on computers in the Mason open labs.

Privacy

Instructors respect and protect the privacy of information related to individual students.

As described above, issues relating to an individual student will be discussed via email, telephone or in person. Instructors will not discuss issues relating to an individual student with other students (or anyone without a need to know) without prior permission of the student.

Homework, quizzes, mid-term exams and other assessable work will be returned to individual students directly by the Instructor (or by a faculty member, staff member, or Teaching Assistant designated by the Instructor, or via another secure method). Under no circumstances will a student's graded work be returned to another student.

Instructors, staff, and Teaching Assistants will take care to protect the privacy of each student's scores and grades.

Disability Accommodations

The Office of Disability Services (ODS) works with disabled students to arrange for appropriate accommodations to ensure equal access to university services. Any student with a disability of any kind is strongly encouraged to register with ODS as soon as possible and take advantage of the services offered.

Accommodations for disabled students **must** be made in advance – ODS cannot assist students retroactively, and at least one week's notice is required for special accommodations related to exams. Any student who needs accommodation should contact the Instructor during the first week of the semester so the sufficient time is allowed to make arrangements.

Campus Notifications

Students are encouraged to subscribe to the Mason Alert system to receive notifications of campus emergencies, closings, and other situations that could affect class activities.

Each classroom has a poster explaining actions to be taken in different types of crisis. Further information on emergency procedures is available at the Campus Emergency Response Team Web site In the event of an emergency, students are encouraged to dial 911.

Other Resources

Mason provides many useful resources for students.
The following resources may be particularly useful:

- The Writing Center

- The Academic Advising Center
- The University Libraries
- Counseling and Psychological Services
- University Career Services

See http://www.gmu.edu/resources/students/
for a complete listing of Mason resources for students.

Academic Integrity

All members of the Mason community are expected to uphold the principles of scholarly ethics.

The AIT major bas been designed to achieve several specific outcomes. One of those outcomes is: "*An understanding of professional, ethical, legal, security, and social issues and responsibilities.*"

Graduating students are bound by the ethical requirements of the professional communities they join. The ethics requirements for some of the communities relevant to AIT graduates are available via the following links:

- ACM Code of Ethics and Professional Conduct
- IEEE Code of Ethics
- EC-Council Code of Ethics

On admission to Mason, students agree to comply with the requirements of the Mason Honor Code. The Honor Code will be **strictly enforced** in this course. Honor Code cases are heard by a panel of students – students who meet the requirements are encouraged to nominate themselves to serve on the Honor Committee.

Any use of the words or ideas of another person(s), without explicit attribution that clearly identifies the material used and its source in an appropriate manner, is **plagiarism** and will not be tolerated. The Instructor reserves the right to use manual and/or automated means (including such services as SafeAssign) to detect plagiarism in any work submitted by students for this course, and to direct Teaching Assistants and/or other faculty and/or staff members to do likewise in support of this course.

For this course, the following requirements are specified:

- All assessable work is to be prepared by the individual student, unless the Instructor explicitly directs otherwise.
- All work must be newly created by the individual student for this course for this semester. Any usage of work developed for another course, or for this course in a prior semester, is strictly prohibited without prior approval from the Instructor.

Students may seek assistance with assigned work (and are encouraged to do so if they feel the need), **provided**:

- The directions for the assigned work do not prohibit such assistance.
- Such assistance is **explicitly acknowledged** in the submitted work, clearly identifying the person(s) giving assistance and the nature of the assistance given.
- Any work to be submitted is prepared entirely and exclusively by the student submitting it. Students are expressly prohibited from sharing any assessable work for this course in any manner with other students (except students assigned as Teaching Assistants or Undergraduate Peer Mentors to this course and the student's section), unless all students involved have had their work graded and returned by the Instructor, or the Instructor has explicitly approved such sharing.

Another aspect of academic integrity is the free exchange of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. Please see the Mason Diversity Statement for more information on this topic.

Students are encouraged to ask for clarification of any issues related to academic integrity and to seek guidance from the Instructor, other faculty members, academic advisors, or the Office for Academic Integrity.

