Course Description: **COMMON SYLLABUS: IT 429 Certification and Accreditation (C&A) of Federal IT Systems:** This course explains the basic principles of how to perform a C&A of an IT System. Also, explain the new initiative of FEDRamp and its influence on cloud computing. The class explains the two roles that are key to this process. The class will explain the role of the Certifier and the Information System Security Officer. This class will be hands on as to the project that is to be completed and use vulnerability scanning software to perform tasks. The objective of this class is to produce a final document that maps out security findings for the system. We will also discuss FEDRAMP which is how the cloud is being approved for processing Government data.

Text: Risk Management Framework: A Lab-Based Approach to Securing Information Systems (Required)

ISBN-10: 1597499951  

NIST Special Publications (These can be downloaded from the NIST Special Publications Website for free)
| Assignments: | Homework: 10%  
Participation: 10%  
In Class Assignments: 20%  
Project: 20%  
Midterm: 20%  
Final: 20% |
<table>
<thead>
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<tbody>
<tr>
<td>Course Prerequisites</td>
<td>IT 105 &amp; IT 223</td>
</tr>
</tbody>
</table>

**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 are unintentional. Please notify the author to resolve any such conflicts.

**Desired Student Outcomes/Objectives:**

Upon the successful completion of this course, the desired outcome for the student is as follows:

- a) Understand the basic process of the C&A process of an IT System
- b) Understand how to create and perform a Security Test and Evaluation of an IT System
- c) Understand each of the roles when a C&A is conducted.
- d) Understanding the process of how to develop a Security plan for an IT System

**Assignment(s):**

**Project:**

Each group will submit one project (document) at the end of the semester. Project will reflect the process of documenting of how a student would meet the security controls for a certain system.

**Homework:**

Each student will complete written assignments, these assignments will all be written papers that are 4-5 pages in length and will reinforce the information that is presented in class.

**Participation:**

Each student will be graded on their participation in class. Questions will be asked within class and the student will be graded on their response to the questions. Attending class does not fulfill your requirement for participation. You will assigned seats and sign in for each class.

**In Class Assignments:**

At the end of some lectures there will be an in class assignment that is designed to reinforce the concepts that were discussed. The class will be broken up into your assigned groups and they will be responsible for completing and discussing an assignment in class. The assignments will
be turned in for the group via a blackboard assignment. Each assignment that is turned in should only contain only the members of the group that participated for that assignment. **These assignments are not announced prior to the class.**

**Midterm/Final Exam:**

Each student will give a midterm and Final exam. Both exams will be short answer and will be based on information provided in class and within the lecture slides. Each exam will be given via blackboard and it is recommended you use a laptop to type your answers. For both exams the Respondus Software will be used to lock down your computer during the exam.

**Access to Course Materials:**

All course materials will be posted onto Blackboard. You may access these materials by visiting:

http://courses.gmu.edu

If assignments or due dates are changed, this will be done via “announcements” in Blackboard.

**Classroom Conduct:**

You are expected to be punctual, alert, and prepared for each class. Be considerate of other students, i.e., be quiet for the duration of the class period, except when you have something to contribute. Do not surf on the Internet during class time. Please feel free to ask questions and/or offer pertinent comments in class. If you are confused, more than likely, someone else is too. If you need extra help, please schedule an appointment in advance or drop by during regular office hours. Cell phones have no place in class. Either leave them behind or turn them off prior to entering the classroom. No eating during lectures. You may eat something during the break.

**The Honor Code:**

All members of the Mason community are expected to uphold the principles of scholarly ethics. Similarly, graduating students are bound by the ethical requirements of the professional communities they join. The ethics requirements for some of the communities relevant to Applied IT graduates are available via the following links:

- http://www.acm.org/about/code-of-ethics
- http://www.eccouncil.org/codeofethics.htm

On admission to Mason, students agree to comply with the requirements of the GMU Honor System and Code. See http://honorcode.gmu.edu for honor code policies. The Honor Code will be strictly enforced in this course. Honor Code cases are heard by a panel consisting 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. Dean Griffiths has mandated a "zero tolerance" policy for plagiarism within
The Volgenau School. The Instructor reserves the right to use manual and/or automated means (including such services as Turnitin.com) 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 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.

**Class Participation Policy:**

Students are expected to attend each class, to complete any required preparatory work (including assigned reading – see schedule) 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.

Departmental policy requires students to take exams at the scheduled time and place, unless there are truly compelling circumstances supported by appropriate documentation. Except in such circumstances, failure to attend a scheduled exam may result in a score of zero (0) for that exam.

**Course Coordinator: Dr. Tom Winston**
(twinsto5@gmu.edu)

**Administrative support:**

**Fairfax campus:**
Maryam Goudarzi
5401 Engineering Building
Phone: 703-993-3565
Final grades will be determined based on the following components:

**Grading**

Grades will be awarded in accordance with the Mason Grading System for undergraduate students. See [http://www.gmu.edu/catalog/apolicies/](http://www.gmu.edu/catalog/apolicies/) under **Grading System** for more information. Please note per university regulation, professors can modify this grading system, and this schema shows such a modification.

The grading scale for this course is:

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Grade</th>
<th>Grade</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>97 – 100%</td>
<td>A+</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>93 – 96%</td>
<td>A</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>90 – 92%</td>
<td>A-</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>87 – 89%</td>
<td>B+</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>83 – 86%</td>
<td>B</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>80 – 82%</td>
<td>B-</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>76 – 79%</td>
<td>C+</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>70 – 75%</td>
<td>C</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>60 – 69%</td>
<td>D</td>
<td>Passing</td>
<td></td>
</tr>
<tr>
<td>0 – 59%</td>
<td>F</td>
<td>Failing</td>
<td></td>
</tr>
</tbody>
</table>
CLASS SCHEDULE – *This schedule is subject to revision before and throughout the course.*

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1/21</td>
<td>L1 Introduction</td>
<td>1-3</td>
</tr>
<tr>
<td>2.</td>
<td>1/28</td>
<td>L2 Critical Infrastructure</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>2/4</td>
<td>L2 FISMA Compliance HW #1 Due</td>
<td>4-5</td>
</tr>
<tr>
<td>4.</td>
<td>2/11</td>
<td>L3 FISMA Project/Hardware and Software</td>
<td>6-7</td>
</tr>
<tr>
<td>5.</td>
<td>2/18</td>
<td>L4 System Categorization</td>
<td>8</td>
</tr>
<tr>
<td>6.</td>
<td>2/25</td>
<td>L5 Risk Assessment HW #2 Due</td>
<td>17</td>
</tr>
<tr>
<td>7.</td>
<td>3/3</td>
<td>Midterm Exam</td>
<td>4-5</td>
</tr>
<tr>
<td>8.</td>
<td>3/10</td>
<td>Spring Break</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>3/17</td>
<td>L6 System Awareness and Training, ROB, and IRP</td>
<td>9-11</td>
</tr>
<tr>
<td>10.</td>
<td>3/24</td>
<td>L7 PIA and BIA HW #3 Due</td>
<td>12-13</td>
</tr>
<tr>
<td>11.</td>
<td>3/31</td>
<td>L8 CP and CMP</td>
<td>14-15</td>
</tr>
<tr>
<td>12.</td>
<td>4/7</td>
<td>L9 System Security Plan HW #4 Due</td>
<td>16</td>
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<tr>
<td>13.</td>
<td>4/14</td>
<td>L10 Security Testing and Audit HW #5 Due</td>
<td>18-20</td>
</tr>
<tr>
<td>14.</td>
<td>4/21</td>
<td>L11 C&amp;A Documents and FEDRAMP</td>
<td>21-22</td>
</tr>
<tr>
<td>15.</td>
<td>4/28</td>
<td>L12 Putting it All Together HW #6 Due</td>
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</tbody>
</table>
Dates listed on this page are for full semester courses only. For add/drop deadlines for courses that meet less than a full semester, see Non-standard Sections Dates.

*Reading days provide students with additional study time for final examinations. Faculty may schedule optional study sessions on Reading Days, but regular classes or exams may not be held.

See Registrars Website for updates

**Religious Holidays:**
A list of religious holidays is available on the University Life Calendar page (http://www.gmu.edu/departments/unilife/pages/calendar.html). 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.

**Communications:**
Registered students will be given access to a section of the Blackboard Learning System for this course. Blackboard will be 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.

Communication with the Instructor on issues relating to the individual student should be conducted using GMU email, via telephone, or in person - not in the public forums on Blackboard. Blackboard Mail is the preferred method – for urgent messages, you should also attempt to contact the Instructor via telephone. Federal privacy law and GMU policy require that any communication with a student related in any way to a student's status be conducted using secure GMU systems – if you use email to communicate with the Instructor you MUST send messages from your GMU email account.

- **If you contact me via email Use the following within the subject line:**
  - IT 429

If this is not within the subject line it may delay my response.

The Calendar will be used to show when assignments are too completed and turned in. The due dates for assignments may change without email or announcement.

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.

**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.

Assessable work other than final exams will be returned to individual students directly by the Instructor (or by a faculty or staff member or a 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.

Faculty and staff 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. Please visit [http://ods.gmu.edu](http://ods.gmu.edu) for more information.

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](http://ods.gmu.edu) 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 [http://www.gmu.edu/service/cert](http://www.gmu.edu/service/cert). 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://www2.gmu.edu/resources/students/](http://www2.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 IT program is 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 IT graduates are available via the following links:

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

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1 Available at [http://catalog.gmu.edu/content.php?catoid=15&navoid=1039#Honor](http://catalog.gmu.edu/content.php?catoid=15&navoid=1039#Honor)
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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.

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