

## MIS5122 – Enterprise Architecture for IT Auditors Fall 2018

### About the Instructor:

Paul Warner (paul.warner@temple.edu)

Phone: (718)450-7171(Cell)

Office hours: Will be conducted Online Via WebEx: By Appointment (please e-mail)

### Class Locations and Time:

Online 6:30pm-7:30pm, Wednesday

Ontheweb: <https://community.mis.temple.edu/mis5122sec702fall18/>

### Course Description:

This course surveys the technology concepts and components that are critical for the IT auditor to understand. It uses an enterprise architecture framework to explore issues of business process, business data, applications and the infrastructure that are necessary to run those applications.

### Course Objectives:

By the end of this course students will be able to:

- Understand the major components which comprise any computing system.
- Explain system software and to contrast system software from application software.
- Identify the connections between each technical topic and its relation to IT Auditing
- Understand the major components of a computer network.
- Illustrate how organizations manage and work with data.
- Explain applications software and to contrast application software with systems software.
- Identify common security vulnerabilities within the web security discipline.
- Comprehend Operating System, Web Server and Database auditing concepts.
- Properly understand how to use the command line.

**Required Text and Reading:**

- Systems Architecture seventh edition by Burd, 2016, Cengage Learning, ISBN-13 978-1-305-08019-5.
- Murach's MySQL 2nd edition by Joel Murach, 2015, Mike Murach & Associates, Inc., ISBN-13 978-1-890774-82-0
- Murach's C# 2015 by Joel Murach, 2016, Mike Murach & Associates, Inc., ISBN-13 978-1-890774-94-3

**Course Materials:**

All other course materials including this syllabus, assignments, and slides are available on my course site.

**Technology Requirements:**

A number of the Tech Challenges will require the use of VMware

1. Computer with a speaker and microphone. You can use a headset
  - a. VMware will be need to be installed on your computer
2. Access to Canvas LMS
3. High speed internet access
4. External hard disk (USB flash drive) with at least 32GB
5. The class will require software to be downloaded such as VMWare, Windows Server 2008/2012, Visual Studio, MySQL etc... All of software that is not freeware can be downloaded under the Temple MIS software agreement at:

[https://e5.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?cmi\\_mnuMain\\_child=aafc5891-884f-e511-940f-b8ca3a5db7a1&cmi\\_mnuMain=2b44b80c-dfc9-e111-971c-f04da23e67f6&ws=933e35a0-db9b-e011-969d-0030487d8897&vsro=8](https://e5.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?cmi_mnuMain_child=aafc5891-884f-e511-940f-b8ca3a5db7a1&cmi_mnuMain=2b44b80c-dfc9-e111-971c-f04da23e67f6&ws=933e35a0-db9b-e011-969d-0030487d8897&vsro=8)

If you cannot access the site please let me know so I can ensure your temple account is added.

**Schedule:**

Keep in mind that all dates are tentative—check the Community site regularly for changes in the schedule.

Week	Date	Topics	Readings and tasks due
1	8/29/18	MIS Careers and Intro to IT Architecture <ul style="list-style-type: none"><li>• Introductions</li><li>• Review Syllabus</li><li>• Presentation: Module 1 - MIS Careers and Intro to IT Architecture</li><li>• Activity: Building a Computer?</li></ul>	Burd Chapters 1 & 2

Week	Date	Topics	Readings and tasks due
2	9/5/18	<p>Computing Systems</p> <ul style="list-style-type: none"> <li>• Presentation: Module 2 – Computing Systems</li> <li>• Activity: <ul style="list-style-type: none"> <li>○ Creating Virtual Machines</li> <li>○ Introduction to Command Line</li> </ul> </li> </ul>	Burd Chapters 4 & 6
3	9/12/18	<p>Operating Systems</p> <ul style="list-style-type: none"> <li>• Presentation: Module 3 – Operating Systems</li> <li>• Activity: <ul style="list-style-type: none"> <li>○ Monitoring and Managing Processes</li> <li>○ Basic Auditing Tools</li> </ul> </li> </ul>	Burd Chapter 11
4	9/19/18	<p>Storage</p> <ul style="list-style-type: none"> <li>• Presentation: Module 4 - Storage</li> <li>• Activity: <ul style="list-style-type: none"> <li>○ Storage Exercise (Vmware)</li> <li>○ File System</li> </ul> </li> </ul>	Burd Chapters 5 and 12
5	9/26/18	<p>Networking</p> <ul style="list-style-type: none"> <li>• Presentation: Module 5 - Networking</li> <li>• Activity: Building a LAN and a Backbone Network Lab</li> </ul>	Burd Chapter 9

Week	Date	Topics	Readings and tasks due
6	10/3/18	<p>Systems Administration</p> <ul style="list-style-type: none"> <li>• Presentation: Module 6 – Systems Administration</li> <li>• Activity: <ul style="list-style-type: none"> <li>○ Active Directory System Administration</li> <li>○ Auditing Active Directory</li> </ul> </li> </ul>	<p>Burd Chapter 14</p> <p>IT Chapter 6 Auditing Windows Operating Systems (See community site for materials)</p>
7	10/10/18	<p>Command Line Interface</p> <ul style="list-style-type: none"> <li>• Presentation: Module 7 - Command Line</li> <li>• Activity: <ul style="list-style-type: none"> <li>○ Activity – Using the Command Line</li> </ul> </li> </ul>	<p>Go through tutorial:</p> <p><a href="http://www.cs.princeton.edu/courses/archive/spr05/cos126/cmd-prompt.html">http://www.cs.princeton.edu/courses/archive/spr05/cos126/cmd-prompt.html</a></p>
8	10/17/18	<p>Databases- Database Server Auditing</p> <ul style="list-style-type: none"> <li>• Presentation: Module 8 – Intro to MySQL Server</li> <li>• Activity: Tech Challenge 6 - MySQL Server Installation and Audit</li> </ul>	<p>Murach's MySQL Chapters 1, 2, 17, 18</p> <p>IT-Audit-Checklist_Databases (See community site for materials)</p>

Week	Date	Topics	Readings and tasks due
9	10/24/18	Application Server Auditing <ul style="list-style-type: none"> <li>• Presentation: Module 10 – Intro to Programming and Application Servers</li> <li>• Activity:               <ul style="list-style-type: none"> <li>○ Tech Challenge 5 - Web Server Installation</li> <li>○ Tech Challenge 7 - Visual Studio 2015 Installation</li> <li>○ Audit your Web Server</li> <li>○ Murach C# 2015 Exercises 2-1,3-1</li> </ul> </li> </ul>	Murach's C#2015 Chapters 1, 2 and 3
10	10/31/18	Databases- Database Development <ul style="list-style-type: none"> <li>• Presentation: Module 9 – Intro to SQL</li> <li>• Activity: Murach MySQL Chapter 4 Exercises 1-7</li> </ul>	Murach's MySQL Chapters 3 and 4
11	11/7/18	Application Software <ul style="list-style-type: none"> <li>• Presentation: Module 11 – Intro to Programming (cont.)</li> <li>• Activity               <ul style="list-style-type: none"> <li>○ Murach C# 2015 Exercises 4-1,5-1</li> </ul> </li> </ul>	Murach's C#2015 Chapters 4 and 5

12	11/14/18	<p>Web Application Security</p> <ul style="list-style-type: none"><li>• Presentation: Module 12 - OWASP_Top-10_2013</li><li>• Activity:<ul style="list-style-type: none"><li>○ Web Hacking Exercise<ul style="list-style-type: none"><li>▪ Tamper Data</li><li>▪ Web Developer Toolbar</li><li>▪ SQL Injection</li></ul></li></ul></li></ul>	Posted Web Security Readings
----	----------	--	------------------------------

Week	Date	Topics	Readings and tasks due
13	11/21/18	<u>No Class – Fall Break</u>	
14	11/28/18	Review for Final Exam	
15	12/5/18	<u>Final Exam</u>	

\*Monday 9/10/2018-Last day to add or drop a course

\*\* Tuesday 10/23/2018- Last day to withdraw from a course



## Evaluation and Grading:

### Item Percentage

Discussion /Participation	10%
Class Activities/Assignments	30%
Weekly Quizzes	10%
Exam 1	15%
Final Project	15%
Final Exam	20%

### Scale

94–100	A	73–76	C
90–93	A-	70–72	C-
87–89	B+	67–69	D+
83–86	B	63–66	D
80–82	B-	60–62	D-
77–79	C+	Below60	F

All assignments will be grades at a minimum one week after the deadline, if you have any concerns about your grades or assignment submission kindly inform me immediately. All areas of work that need to be graded must be submitted by 11:59PM on the final day of fall 2018 semester.

## Participation/Discussion Board

Discussion Board content comprises 10% of your grade. There will be 11 discussion boards. The maximum grade for each week's discussion board is 100. The discussion board will include case projects, and research projects directly related to weekly objectives

### Discussion Board Rules

Discussion Boards open Sunday evenings at midnight. Initial postings are due Thursday evenings by midnight. Response posting are due by Sunday midnight. This schedule is designed to provide you time to complete your discussion board on time.

Each Discussion Board has three (3) components:

- First, create a thread responding to the topic posted for the week by Wednesday 11:59PM each week
- Second, discuss other student postings by giving comments. The focus of your comments should be primarily on the topic of the week.
- Third, you should post at least two (2) responses/comments to other students' postings.

Grading - If you complete all three areas of the discussion listed above, you will receive a score of 'Excellent/100%'. If you complete some, but not all elements, you will receive a score of Satisfactory/50%-75%. If you do not complete any of the elements (or a very limited amount of effort), you will receive a score of Unsatisfactory/0%.

## Quizzes

Students are expected to complete eight quizzes, which align with various chapters in the assigned text book. Each quiz includes 10 questions and consists of multiple choice and/or true or false questions. All quizzes will be given within Canvas. Each quiz will have 30 minutes, you cannot pause or go back to previous questions

## Exams

There will be a 2 exam for this course, **Exam 1** and the **Final Exam**. Each exam will consists of various types of questions and will be based on topics we have discussed in class, and your text book it will be comprised various types of questions including multiple choice and true or false questions. All exams will be given within Canvas.

A missed exam can only be made up in the case of documented and verifiable extreme emergency situations.

## Activities/Assignments

Each session/week will involve at least one activity/assignment. Kindly make sure activities are submitted prior to the dead line which it Sunday at 11:59PM for that specific week. Because this is an online class assignments will be completed outside of class. Assignment will reflect real work hand-on activity and must be submitted to Canvas for grading. **All activities/assignments must be submitted to the instructor for a grade before the next class.**

## Late Assignment Policy

- All assignments are due on time, 10 points will be subtracted each week an assignment is late.
- It is very important for you to submit your work even if it is not completed, a partial grade is always better than no grade

## Final Project

The final project is based on a summary of all work covered in class. It will encompass 3 parts: Written, Configuration and Testing(Auditing)

## Classroom Etiquette

The environment you and your fellow students create in class directly impacts the value that is gained from the course. To that end, the following are my expectation of your conduct in this class:

- Arrive on time and stay until the end of class.
- Turn off cell phones, pagers and alarms while in class.
- Limit the use of electronic devices (e.g., laptop, tablet computer) to class-related usage such as taking notes. Restrict the use of an Internet connection (e.g., checking email, Internet browsing, sending instant messages) to before class, during class breaks, or after class.
- During class time speak to the entire class (or breakout group) and let each person “take their turn.”
- Be fully present and remain present for the entirety of each class meeting.

## Grading Criteria

The following are the criteria used for evaluating assignments. You can roughly translate a letter grade as the midpoint in the scale (for example, an A- equates to a 91.5).

Criteria	Grade
The assignment consistently exceeds expectations. It demonstrates originality of thought and creativity throughout. Beyond completing all of the required elements, new concepts and ideas are detailed that transcend general discussions along similar topic areas. There	A- or A

are no mechanical, grammatical, or organization issues that detract from the ideas.	
The assignment consistently meets expectations. It contains all the information prescribed for the assignment and demonstrates a command of the subject matter. There is sufficient detail to cover the subject completely but not too much as to be distracting. There may be some procedural issues, such as grammar or organizational challenges, but these do not significantly detract from the intended assignment goals.	B-, B, B+
The assignment fails to consistently meet expectations. That is, the assignment is complete but contains problems that detract from the intended goals. These issues may be relating to content detail, be grammatical, or be a general lack of clarity. Other problems might include not fully following assignment directions.	C-, C, C+
The assignment constantly fails to meet expectations. It is incomplete or in some other way consistently fails to demonstrate a firm grasp of the assigned material.	Below C-

### Class attendance policy

Attendance is required for all scheduled class meetings. If a student has a truly compelling case for missing a class, this must be discussed with the instructor in advance. Any unexcused absences will result in a reduction of the student's attendance grade.

### Citation Guidelines

If you use text, figures, and data in reports that was created by others you must identify the source and clearly differentiate your work from the material that you are referencing. If you fail to do so you are plagiarizing. There are many different acceptable formats that you can use to cite the work of others (see some of the resources below). The formats are not as important as the intent. You must clearly show the reader what is your work and what is a reference to someone else's work.

### Plagiarism and Academic Dishonesty

Plagiarism and academic dishonesty can take many forms. The most obvious is copying from another student's exam, but the following are also forms of this:

- Copying material directly, word-for-word, from a source (including the Internet)
- Using material from a source without a proper citation
- Turning in an assignment from a previous semester as if it were your own
- Having someone else complete your homework or project and submitting it as if it were your own
- Using material from another student's assignment in your own assignment

Plagiarism and cheating are serious offenses, and behavior like this will not be tolerated in this class. In cases of cheating, both parties will be held equally responsible, i.e. both the student who shares the work and the student who copies the work. Penalties for such actions are given at my discretion, and can range from a failing grade for the individual assignment, to a failing grade for the entire course, to expulsion from the program.

### Student and Faculty Academic Rights and Responsibilities

The University has adopted a policy on Student and Faculty Academic Rights and Responsibilities (Policy # 03.70.02) which can be accessed through the following link:

[http://policies.temple.edu/getdoc.asp?policy\\_no=03.70.02](http://policies.temple.edu/getdoc.asp?policy_no=03.70.02)

**Disability disclosure statement:**

Any student who has a need for accommodation based on the impact of a disability should contact me privately to discuss the specific situation as soon as possible. Contact Disability Resources and Services at 215-204-1280 in 100 Ritter Annex to coordinate reasonable accommodations for students with documented disabilities.