## 

### APPLIED INFORMATION TECHNOLOGY PROGRAM

## Information Technology Infrastructure

## AIT600, Sections 901 – Spring 2020

## Syllabus 3-credit course

Meeting Time: Section 901 Online Material posted on Blackboard, 1202AIT600901

Professor: Cheryl Thomas Brown

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**Office Hours:** Mondays 12:30pm – 2pm and Wednesdays 1:45pm – 3:15pm & by appointment & via email

**Course Description:** This course will include a discussion and survey of enterprise-information system architectures including software systems, hardware, operating systems, databases, component technologies, networking, architecture patterns, and Unified Modeling Language (UML). Discussions will include the review of Case studies of Information Technology systems. An introduction to the Systems Development Process, including the analysis, design, development, implementation, and post-implementation phases will also be provided.

**Course Objectives:** Upon completion of this course, you should be able to:

* Describe and understand the significance of different kinds (viewpoints) and levels of enterprise systems and architectures
* Explain the components (software, hardware, and networks) that comprise an enterprise system
* Describe and understand IT Infrastructure, IT Infrastructure Maintenance and Management
* Use the UML to effectively describe enterprise architectures
* Explain software and architectural design patterns
* Identify the tradeoffs involved in the design, development, and maintenance of enterprise systems

**Textbooks:**

* Required: Giachetti, Ronald E. Design of Enterprise Systems. CRC Press, 2010. ISBN: 9781439818237
* Referenced: Lamoureux, Louis. Doing Digital Right: How Companies Can Thrive in the Next Digital Era. Third Digital, 2017. ISBN: 9780998407104
* Referenced: Abbott, Martin & Fisher, Michael. The Art of Scalability: Scalable Web Architecture, Processes, and Organizations for the Modern Enterprise. Addison Wesley, 2015. ISBN: 9780134032801

References:

1. Additional material from Professional Journals, Library Resources, Web Sites listed under External Links, Annual Reports, Case Studies, Newsgroups, Magazines, and Personal Interviews
2. Britton, C., IT Architectures and Middleware: Strategies for Building Large, Integrated Systems, Addison-Wesley. ISBN: 9780321246943.
3. E-mail account provided by Towson’s OTS (Required)
4. Blackboard online course account and access to distributed learning

Prerequisites: Acceptance to the AIT program.

**Classroom Assignments & Techniques:**

Students **online are REQUIRED to watch the Panopto videos** that are recorded each week. To enhance retention and learning, the usual lecture methodology will incorporate active learning and web-supported techniques. Students are expected to be prepare for the material scheduled for that week. Assignments will require a multitude of instructional practices including but not limited to group-structured learning, individual research, presentations and interactive discussions.

Throughout the semester, students will be expected to engage in numerous in-class activities, group assignments and individual assignments, labs and other exercises. There will be several assignments designed to synthesize previously covered topics with new concepts being covered during a particular class meeting. All assignments should be submitted electronically through Blackboard by the due date.

Grading:

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| **Assignment** | **Percentage** |
| Quizzes (3% each) | 18% |
| IT Job Paper | 10% |
| Midterm Exam (Approximately takes Prep 60 mins & Exam 180 mins) | 20% |
| Individual Research Topic | 2% |
| Individual Research Outline | 6% |
| Peer Reviews of Individual Papers (Approximately takes 180 mins) | 4% |
| Individual Research Paper | 16% |
| Individual Research Presentation | 4% |
| Final Exam (Approximately takes Prep 60 mins & Exam 180 mins) | 20% |

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| **Average** | **Grade** | **Quality Points** |
| ≥ 93% - 100% | A | 4.00 |
| ≥ 90% - < 93% | A- | 3.67 |
| ≥ 87% - < 90% | B+ | 3.33 |
| ≥ 80% - < 87% | B | 3.00 |
| ≥ 77% - < 80% | C+ | 2.33 |
| ≥ 70% - < 77% | C | 2.00 |
| < 70% | F | 0.00 |

**Violation of Academic Integrity Policy:**

All students are required to honor Towson University’s academic Integrity Policy <https://www.towson.edu/provost/academicresources/documents/03_01_00_student_academic_integrity_policy.pdf> , which includes Plagiarism, Fabrication and Falsification, Cheating, Complicity in Academic Dishonesty, Abuse of Academic Materials, & Multiple Submissions. Failure to do so will result in an official notification to the Office of Student Conduct & Civility Education and will result in **at least a zero** on the assignment with the possibility of **course failure** depending on the severity. Discussions among students fosters learning however, work must be individually prepared unless otherwise specified. **All assignments must be turned in electronic format,** so that papers can be assessed for academic integrity.

**Privacy and Confidentiality in the Online Classroom**

Please do not share information that is confidential, privileged, or proprietary in nature.

**Dropping this course:**

2/4/2020 Last day to add a course or drop a course with no grade posted

4/6/2020 Last day to drop a course with a grade of “W”

Please email the instructor and team members, upon withdrawal from any course.

**Accessibility & Disability Services:** If you are a student with a disability, please contact me to discuss your specific needs.  A memo from Accessibility & Disability Services (ADS) authorizing your accommodations will be needed.  Please note that accommodations needed for an online course may be different than those needed in a traditional classroom setting, so it is important that you work with ADS to determine appropriate accommodations for this course as early as possible.  For more information, or if you have questions about accommodations, contact Accessibility & Disability Services at 410-704-2638 or visit <https://www.towson.edu/accessibility-disability-services/>.

**Posting Grades:** The University policy does NOT permit the posting of grades in a public place. Your final grade will be posted on Blackboard as well as PeopleSoft.

**TU Courseware Account:** This course is web-enhanced by the aide of an online learning format through Towson’s BlackBoard courseware application. Students’ logon and other resources are available at <http://blackboard.towson.edu/> . You are automatically enrolled in the Blackboard courseware which is directly linked to your PeopleSoft enrollment, thus displaying the following course: **1202AIT600901**. All assignments, class handouts, reviews, discussion forums and general course information will be managed through this site. Technical support for BlackBoard (LearnOnline) is available through OTS at (410) 704-5151: <http://www.towson.edu/blackboard/studentresources.asp>

**Student Computing Services**: “provides valuable technology resources for students of all majors and experience levels. SCS includes Service Desks, Computer Labs, ResNet Support, Multimedia Support and Studios.” <http://www.towson.edu/technology/studentservices/index.html>

**Written Reports:** All written assignments necessitate proper grammar, spelling, punctuation, and revisions for flow. Complete, concise and clear thoughts are expected in full sentences. Writing material must be typed using double-spaced, Times New Roman, 12-point font, default margin settings of 1” on the sides and 1” on the top and bottom. All submitted materials require professional presentation, which includes binders or folders and proper formatting using the MLA style tutorial at <http://towson.libguides.com/mlastyle> with **Embedded Parenthetical Citations with Author & page/paragraph # REQUIRED.** **There must be a 100% match between the Works Cited and in-text citations and vise a versa.** **All papers, including group projects, MUST BE APPROPRIATELY CITED; FAILURE to do so is PLAGIARISM and will RESULT in at least an ‘F’ on the assignment and possible COURSE FAILURE. The URL is REQUIRED for all web sources in your Works Cited.**

**CLA Writing Center**: “At virtually every stage of the writing process from brainstorming your concept to polishing your final draft, you can get the writing assistance you need at the Writing Center.” <http://www.towson.edu/cla/centers/writing/>

**Public Communications Center:** “The Public Communication Center is dedicated to helping all members of the Towson University community become more effective, engaged, and empowered speakers.” <https://www.towson.edu/cofac/centers/public-communication.html>

**Assignment Grading Breakdown:**

**Quiz Assignments**

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| **Date Due** | **Assignment** |
| Due No Later Than The  Day Listed on the Syllabus | * Complete the Chapter specific quizzes through Blackboard’s Assignments * The quiz is done on Wednesday evening, so that the week’s material can be better understood. * 9 submissions (Approximately takes 150 mins each for studying and quiz time) |

**IT Job Paper Assignment**

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| *Individual Job Paper*  * Submit Final version of paper * Body of the Paper **must** be between 1,000 – 1,500 words * Include a title page * Choose a job in the IT field that interests you:   + List the job   + Explain why you will pursue this job in the future   + Previous knowledge about this job   + Research and identify the duties & responsibilities involved   + Why the position is considered an IT position?   + How is this position important to the IT field?   + What is unique about this position compared to other IT jobs   + Explain how you see this position in 10 years   + Can this position be automated, thus eliminating human presence in the position? If so, how? If not, why not?   + Provide appropriate reputable sources with in-text citations, see Written Reports section above   + Include anything else you would like to discuss about the choice you made regarding an IT job. * Post in Blackboard for grading * Approximately takes 180 mins |

**Chapter Readings**

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| *Readings:*   * Assignments are listed on the schedule for weekly readings * Approximately takes 120 mins each for 13 weeks |

**Supplemental Videos**

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| **Videos Postings**   * Supplemental Videos will be posted for periodic viewing * Approximately takes 20 mins for each of the 4+ times |

**Individual Research Paper Assignment**

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| **Research Paper**  Based on your interest and relating to the course, write a research paper consisting of 2000-2500 words (excluding Abstract and References). This will require you to provide four deliverables according to the schedule:   1. **Topic**   Topic should be based on a research question. The first step in writing a research paper is to develop a research question. Students have to find answer to his/her research question by conducting research and by reviewing existing literature and the material covered in class and from the text books. Before coming up with a topic it is best to brainstorm ideas, conduct some research and come up with a question/topic that has not been addressed before. Please feel free to communicate with the instructor in choosing a topic.   1. **Outline**   This should include a general outline and a plan of what you will include in your research paper. This could be a one to two page(s) document.   1. **Peer Review**   You will need to Peer Review three students’ papers to give feedback on meeting the specifications.   1. **Paper**   After having thought about your topic and research question and after having read related journal articles, you should have generated notes that would lead to a research paper.   1. **Incorporated Peer Review Feedback**   A full-page explanation of how the peer review feedback was incorporated into the final version of your research paper.   1. **Presentation**   Students are required to create a PowerPoint presentation that will summarize their individual research paper, record the presentation with the PowerPoint with the presenter’s face giving the presentation, and post it under the Discussion Board’s Presentations thread.  Research Paper Structure  Each paper should have the following structure.  Title  Include the following items:   * Title of Paper * Author’s Name * Course Name * Instructor Name   Abstract  Its purpose is to make it possible for potential readers to quickly find out if the work is relevant to their needs and worth reading. It must not be more than 150 words. In general, an abstract should contain the following information:   * Background: A simple opening sentence or two placing the work in context. * Aims: One or two sentences giving the purpose of the work. * Method(s): One or two sentences explaining what was done. * Results: One or two sentences indicating the main findings. * Conclusions: One sentence giving the most important consequence of the work.   Introduction   * Set the context – provide general information about the main idea, explaining the situation so the reader can make sense of the topic and the claims you make and support. An introduction should tell the reader explicitly what the thesis (the point of the paper) is. After having read the introduction, the reader should have no doubt about what the central point of your paper is. * State the motivation for writing on this topic – mention why the main idea is important. Tell the reader why s/he should care and keep reading. Your goal is to create a compelling, clear, and convincing essay people will want to read and act upon. An introduction should attract the reader's attention. You should convince your audience that it should care about what you have to say, though attention to relevance and significance is part of constructing a successful thesis. * Clearly state your research question and explain your problem area.   Literature Review  The purpose of the literature resource is to convey to your reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are. As a piece of writing, the literature review must be defined by a guiding concept (e.g., your research objective, the problem or issue you are discussing or your argumentative thesis). It is not just a descriptive list of the material available, or a set of summaries. A literature review is an evaluative report of studies found in the literature related to your research problem. The review should describe, summarize, evaluate and clarify this literature.  Analysis  Develop your analysis using brainstorming and mind mapping. Both techniques will be explained.  In analysis section, you would present the results of your research. Mention the answers and list your analysis and recommendations here. You should generalize on what you have learned from your research. One way to generalize is to explain the consequences or meaning of your results and then make your points that support and refer back to the statements you made in your introduction. Your discussion should be organized so that it relates directly to your thesis. You want to avoid introducing new ideas here or discussing tangential issues not directly related to the exploration and discovery of your thesis. This section, along with the introduction, is usually written in present tense.  There are specific conventions for creating tables, charts, and graphs and organizing the information they contain. In general, you should use these only when you are sure they will enlighten your readers rather than confuse them. In the accompanying explanation and your discussion, always refer to the graphic by number and explain specifically what you are referring to. Give your graphic element a descriptive caption as well. The rule of thumb for presenting a graphic is first to introduce it by name, show it, and then interpret it. The results section is usually written in past tense.  Conclusion  A good conclusion to a research paper is the logical outcome of all that has been said earlier. Usually, the thesis statement is repeated but not in exactly the same wording. It is useful to restate the main points of your paper in a much more summarized form and in different words before restating the controlling idea. Some extra points that might be included in the conclusion are:   * + What are the contributions of this literature to the field?   + What are the overall strengths?   + What are the overall weaknesses?   + Are there any gaps in the literature?   + What are some next steps for research? The next steps should explicitly address how to “correct” for strengths, weaknesses, and gaps.   Feedback Incorporation of Peer Review  Include a full-page summary of how you have incorporated the feedback that was received during the peer review process in your final draft of the paper.  List of References  Use the MLA style of referencing with 100% match between Works Cited and In-text citations. If all Works Cited are not used at least once or In-text citations are missing Works Cited source, the paper will lose 20% of the grade for each issue!  Peer Review  You will need to Peer Review three students’ papers to give feedback on meeting the specifications.   * + Completed under Discussions button in Blackboard   + Please create a NEW THREAD to submit your Individual Paper for Peer Review here by the due date   + Students will REPLY to the thread when reviewing students' papers.   + Evaluate the peer reviews for the following guidelines     - * All in-text citations are listed in Works Cited by first combinations of unique word(s)       * All Works Cited are used at least once in the body of the paper as an parenthetical in-text citation       * All in-text citations have page or paragraph numbers noted       * Works Cite is properly formatted       * Paper is 2,000 - 2,500 words long       * Proposal is included       * Paper is written at the proper grade level in proper formal English proses       * Paper has been grammar checked       * Research is done properly       * Cultural & change management is addressed       * Paper is interesting       * Overall cohesiveness       * Quality introduction       * Quality conclusion   + You are to complete your peer review on the three students below your name. If you are one of the last three students on the list, start over at the top to complete three peer reviews.   + All peer reviews should be at least two pages written for each paper reviewed. Therefore, you will be writing at least 6 pages (2 pages for each of the 3 students you review).   Entire project will take approximately 600 mins |

**AIT 600.901 Tentative Schedule for Spring 2020:**

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| **Week** | Date | **Module** | **Assignments** |
| 1 | 1/27/2020 – 1/31/2020 | Module 1: Overview & Governance | Introductions and Review Syllabus & Overview  Readings: Giachetti’s Chapter 1: Enterprise Engineering  &  Role of IS & MIS & IS Components & Functions of IS &  Orientation to Blackboard Course site under Start Here (30 mins) &  Post to Discussion Board: Biography/Intro by next class (30 mins) |
| 2 | Tues, 2/4/20 | Last day to drop with no grade posted to academic record |
| 2/3/2020 – 2/7/2020 | Readings: IT Governance &  Readings: Giachetti’s Chapter 2: Systems Theory &  Review MLA Outline Requirements & Library Resources &  Discuss Individual Paper Ideas |
| 3 | Mon, 2/10/20 | Module 2: Modeling | Quiz on Giachetti’s Chapters 1 & 2 Due |
| 2/10/2020 – 2/14/2020 | Giachetti’s Chapter 3: Modeling Concepts  Case Study |
| 4 | Mon, 2/17/20 | Module 3: Frameworks | Quiz on Giachetti’s Chapter 5 Due |
| 2/17/2020 – 2/21/2020 | Readings: Business Capability Modeling & Organizational Culture &  Giachetti’s Chapter 4: Enterprise Design Methodology |
| Sat, 2/22/2020 | IT Job Paper Due (No Late Submissions) |
| 5 | 2/24/2020 – 2/28/2020 | Giachetti’s Chapter 5: Enterprise Architecture &  Case Study |
| Sat, 2/29/2020 | Individual Research Topic Due |
| 6 | Mon, 3/2/20 | Module 4: Solving  Business  Problems &  ERP | Quiz on Giachetti’s Chapters 8 & 9 Due |
| 3/2/2020 – 3/6/2020 | Readings: Giachetti’s Chapter 7: Strategy  Giachetti’s Chapter 8: Problem Formulation and Requirements &  Giachetti’s Chapter 9: Generate and Evaluate Alternatives |
| Fri, 3/6/20 -Sat, 3/14/20 | Mid-Term Exam – to be held online, no class meeting (240 mins) |
| 8 | 3/16/2020 – 3/22/2020 |  | Spring Break – Enjoy! |
| 9 | Mon, 3/23/20 | Module 5: Information & Organizational Design | Quiz on Giachetti’s Chapters 10 & 13 Due &  Quizzes on Giachetti’s Chapters 15 Due |
| 3/23/2020 – 3/27/2020 | Readings: Giachetti’s Chapter 10: Process Modeling &  Giachetti’s 12: Process Designs &  Giachetti’s Chapter 13: Information Modeling &  BI |
| Sat, 3/28/20 | Research Paper Outline Due |
| 10 | 3/30/2020 – 4/3/2020 | Giachetti’s – Chapter 14: Information Design &  Giachetti’s Chapter 15: Organizational Design &  IT Infrastructure |
| 11 | 4/6/2020 | Module 6: Scalability & IT Governance | Last Day to withdraw with a grade of ‘W’ |
| 4/6/2020 -4/10/2020 | PowerPoint & Videos: Scalability &  IT Governance  The Art of Scalability & Managing Growth  <https://www.slideshare.net/quipo/the-art-of-scalability-managing-growth> |
| Sat, 4/11/2020 | Research Paper Due for Peer Reviews, UNDER Discussions |
| 12 | Wed, 4/13/20 | Module 7: Enterprise Architectures &  Technologies | Quiz on Giachetti’s Chapter 16 Due |
| 4/13/2020 – 4/17/2020 | Readings: Giachetti’s Chapter 16: Enterprise Technology &  : BPMN & Application Development &  Giachetti’s Chapter 6: Enterprise Analysis |
| Sat, 4/18/20 | **Peer Comments due under the original thread UNDER Discussions** |
| 13 | 4/20/2020 – 4/24/2020 | Giachetti’s Chapter 17: Enterprise Integration & Design Presentation &  PowerPoint: Web Services & SOA &  Case Study &  Final Exam Review, Chapters Giachetti’s 7-10, 12-16 & Scalability & IT Governance & ERP & Web Services & SOA & Tradeoffs & Guest Speakers (Prep 180 mins) |
| Sat, 4/25/20 | **Final Research Paper - Due under Assignments** |
| 14 | 4/27/2020 – 5/1/2020 | Watch the three Guest Speaker Video Recordings:  Gretchen Greene’s STSci &  Mitch Daniel’s Big Data &  Michelle Ajayi, former AIT graduate |
| 15 | Sat, 5/2/2020 | **Research Presentations Due Under Discussions** |
| 5/4/2020 – 5/8/2020 | **Research Day to watch the other students’ presentations under the Discussion Board’s Presentations & Comment on each students’ presentation in a Reply under the different Threads that makes it obvious that you watched the presentation Due: 5/8/2020** |
| 16 | 5/9/2020 – 5/14/2020 | Final Exam – to be held online, no class meeting (240 mins) |