MET CS 783 Section A1 (Tuesdays) – Spring 2021

Course Syllabus – Enterprise Architecture

Instructor: Marcia M. Yates (email: mmyates@bu.edu or marcia.m.yates@gmail.com)

Location: Online, over Zoom

Textbooks:

- ***Enterprise Architecture as Strategy*** by Jeanne W. Ross, Peter Weill, and David C. Robertson, Harvard Business Press 2006. ISBM: 978-1-59139-839-4. (This textbook can be purchased from Barnes and Noble at Boston University. Text is abbreviated as "EAAS" below.)
- ***Software Architecture Patterns*** by Mark Richards, O'Reilly Media Inc., 2015. (This book is a free PDF download from the O'Reilly website: http://www.oreilly.com/programming/free/files/software-architecture-patterns.pdf)

Note that this is a "flipped classroom" course. Significant class time will be devoted to workshops conducted in small groups, some of which are noted on the schedule below. For Spring 2021, this course will be held entirely online, over Zoom, although depending on L*f*A resources, there may be in-classroom meetings for students. Lectures may be assigned as homework reading if there is not sufficient time to cover all lectures in class. Because workshop timing is unpredictable, some topics may need to shift slightly from the plan below.

Class Meetings	Topics	Reading Assignments	Assignments
Jan 26	Syllabus "Scavenger Hunt"! Introduction to Enterprise Architecture, Introduction to CS783 course objectives Some details on the Term Project Review of System Architecture (time permitting)	EAAS: Preface, pp. vii – xi EAAS: Chapter 1 EAAS: Chapter 2 *Blackboard – read Module 1 content*	*Review Module 0 in Blackboard course; review syllabus; create your personal schedule for the course – be warned that the course covers a lot of material, the pace is fast, and the assignments can be time-consuming!* *Think about what you want to do for the Term Project; discuss with instructor over email or before class if you want feedback.*
Feb 2	Intro to EA, continued: The themes of our course and textbook; the Core Diagram and business operating models	EAAS: Chapter 3	*Supplemental material: Lecture on Explaining Technology to the Non-technical*

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	Our Current Business Climate and the Challenges for EA; What business is looking for in a CIO **Workshop #1:** **Ice-breaker "Technical Manager" Workshop**	Read the first half of *Software Architecture Patterns*	
Feb 9	EA Methodology: Methods and EA frameworks, enterprise agile (SAFe)	EAAS: Chapter 4 *Blackboard – read Module 2 content*	**Assignment #1 Due** **Term Project Deliverable #1 due (Proposal for your project)**
Feb 16	NO CLASS; MONDAY CLASSES ARE SUBSTITUTED		**Work on Assignments and Term Project deliverable**
Feb 23	Migrating Legacy Systems: A Key EA Challenge IT Engagement Model, Security & Compliance	EAAS: Chapter 5 Read the second half of *Software Architecture Patterns (for Feb 25th class)*	***All due by 6am Tuesday morning:*** **Quiz #1**
Mar 2	Software Architecture Patterns – Examples from Richards' Book & Examples from CS783 Some EA Implementation Technologies: • Older technologies: SOA and RESTful in the enterprise • New technologies: Blockchain and microservices	EAAS: Chapter 6 Read introduction and chapters 1&2 in Richards textbook *Blackboard: read Module 3 content*	***All due by 6am Tuesday morning:*** **Assignment #2 due** **Quiz #2** **Term Project Deliverable #2 (Your schedule for your project, including the artifacts you plan to include)**
Mar 9	Architecture Maturity Models Virtualization and Cloud Basics **Workshop 2 (most of class period)**	EAAS: Chapter 7	
Mar 16	System Integration & Linking Technologies ERP Systems	*Blackboard: read Module 4 content*	***All due by 6am Tuesday morning:*** **Assignment #3 due**

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Class Meetings	Topics	Reading Assignments	Assignments
		Read Richards chapters 3 & 4	**Quiz #3** **Term Project Deliverable #3 due**
Mar 23	Big Data Analytics and Multi-model Databases On-prem Server Room versus Hosted versus Cloud Services; Multi-cloud approaches and Case Studies	EAAS: Chapter 8	
Mar 30	Additional New topics in EA: IoT ("Internet of Things"), functional programming languages w/ microservices, Containers and Docker, Artificial Intelligence and Machine Learning DevOps	EAAS: Chapter 9	***All due by 6am Tuesday morning:*** **Assignment #4** **Term Project Deliverable #4 due**
Apr 6	IT Governance, Part 2: Vendor Management, Outsourcing, and SLAs **Workshop #3**	*Blackboard: read Module 5 content* EAAS: Review Chapter 7	**Quiz #4 due by 6am**
Apr 13	Deploying Your EA: Scaling, Monitoring, and Fault Tolerance; designing to take advantage of cloud architecture DevOps The Final Lecture: Disaster Recovery and *"So You Want to Be a CIO?"*	*Blackboard: read Module 6 content*	**Quiz #5 due by 6am**
Apr 20	**Term Project Presentations – entire class (You must attend all presentations)**		**Term Project Report and Presentation due!!**

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Class Meetings	Topics	Reading Assignments	Assignments
Apr 27	**Term Project Presentations – entire class (You must attend all presentations)** Final Exam Review, time permitting		***Due by 6am Tuesday morning:*** **Quiz #6**
May 4	**FINAL EXAM – Closed book proctored cumulative exam; taken in-class, online through Blackboard. Students must bring their own laptops for the exam.**		Good luck!

CLASS POLICIES

PLEASE READ THE FOLLOWING INFORMATION CAREFULLY. IF YOU HAVE QUESTIONS OR CONCERNS, PLEASE DO NOT HESITATE TO ASK YOUR INSTRUCTOR FOR CLARIFICATION.

Office hours: Before class on class night, or email instructor with questions. Instructor will stay for after class up to 15 minutes, or we can use break times to answer questions or consult on Term Project. Scheduled phone calls are also available. If there is sufficient interest, we can schedule sessions for Term Project questions for the whole class

Snow/weather-related cancellation of class: Class will not be canceled during Spring 2021 because this course will be conducted online.

Accuracy of Due Dates: This syllabus represents due dates as understood as of its publication in early January 2021. The most up-to-date due dates will be reflected in the Blackboard calendar for the course. Instructor will always send out a Blackboard email announcement with any changes.

Spring Term Schedule: It is imperative that students stay current with work that is due. The Term Project is a serious, graduate student-level project and it **must be approved** by the instructor before starting work. The term goes by QUICKLY. Students who succeed in this course plan out their work from the beginning; one of your Term Project deliverables will be a schedule that you create to identify what parts of your project will be delivered when.

Each student must submit original work done only by the student: **Any paraphrased or directly quoted supporting material from the Internet, textbooks, or any other primary source must be properly cited using APA form**. Students may not collaborate with other students on quizzes, assignments, or the Term Project. This is an upper numbered graduate course; students are expected to submit assignments that incorporate *their* original ideas, not re-hashed/copied ideas from others or copy/paste from other sources without demonstrating original explanation and thinking. Do not under any circumstances use or cite Wikipedia! It is not reliable.

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English as a Second Language: Your instructor is highly experienced with international students. A high level of English fluency is needed to do well in this course, however. It is highly recommended that students for whom English is a second language (or native English speakers who have challenges writing) seek out an English-fluent peer to help with copy edits. Your instructor unfortunately does not have time to go over written assignments and edit them for the student.

Disability accommodations: You must be documented through the University's disability office if you need special accommodations to take this course. The disability office will produce a letter explaining your needs; you must deliver that letter to the instructor at the start of the course if you need accommodations.

Term Project length: Reviewing and grading final term projects takes significant time – at least 3 hours per project/student. **Therefore, there is a page limit of 25 pages, with font size 10 the smallest font accepted.** Instructor will stop grading after 25 pages. The page limit does not include the slides for your in-class presentation.

In-class Term Project presentation: It is fun and interesting to see what other students have done for their projects; the workshops and in-class presentations are often the highlights of the course. We can only devote 2 classes for presentations, so your presentation must be succinct – about 15 to 20 minutes per presenter maximum, including a couple minutes to answer questions from the class; the exact time is dependent on the number of students in the class. *PLEASE PLEASE PLEASE time your presentation and rehearse it!* It is very painful when we have to cut someone off because they are running over – a few minutes may be ok, more than that is not. It is mandatory to attend the Term Project presentations, as they are an important part of your learning experience in CS783.

Plagiarism policy: Cheating and plagiarism will not be tolerated in any Metropolitan College course. It is each student's responsibility to read and understand the Boston University academic conduct code, which is available here https://www.bu.edu/met/files/2011/08/bu-met-graduate-student-academic-conduct-code.pdf . With the exception of collaborative in-class workshop sessions, all assignments, quizzes, and exams are assumed to be the original work of the student whose name is on the assignment. The instructor uses plagiarism detection tools like *TurnItIn* to assess whether information has been copied directly from sources without proper citation, or whether students have copied or purchased papers that have been submitted previously in the course. **Discovery of plagiarism will result in a zero for the assignment.**

Citations: In accord with the above rules on plagiarism, any directly quoted or paraphrased material must have proper citation. Use primary sources, and do not use Wikipedia! Any assignment must also have a standard bibliography. MET College requires APA citation style (please see http://www.apastyle.org/ if you are unfamiliar with it). **Failure to include a bibliography will result in a 25 point loss on the assignment.**

Quizzes: There are six quizzes that are accessed and taken online in Blackboard. Quizzes are due by 6am on Tuesdays, as indicated in the syllabus above. Quiz results cannot be released until all students have taken the quiz. Quizzes are configured so that students may take them multiple time for Final Exam review, but **only the first quiz attempt will be graded.**

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Exams: The final exam is closed book and cumulative. It will be held in class on May 4th; the test format is similar to the online quizzes, plus an essay question. There is no mid-term exam. Students must bring a laptop to class to take the exam. **Ensure that your laptop can successfully access the Blackboard site prior to the exam.**

Assignments: Assignments will be submitted in Blackboard. You must submit to the assignment dropbox. I will do my best to ensure timely feedback, but please understand that I have a consuming day job in the medical device industry, and I am instructor for the online running of this course, too. All quizzes and assignments are due by 6am on Tuesday mornings – if you require an extension in hardship cases, please get in touch with the instructor BEFORE the due date for the assignment.

Grading: Your grade is determined as follows:

- Assignments and Term Project Deliverables – 20%
- Workshops and interactive quiz answers in class – 5%
- Online quizzes – 15%
- EA Term Project Report – 20%
- EA Term Project Presentation – 10%
- Final Exam – 30%