



MET CS 783 Online – Spring 2 Term 2020

Course Syllabus – Enterprise Architecture

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Textbooks:

- **Enterprise Architecture as Strategy** by Jeanne W. Ross, Peter Weill, and David C. Robertson, Harvard Business Press 2006. ISBN: 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>)

CS783 is both a rewarding and a challenging course! Students who do well plan their time carefully from the start of the course. It is highly recommended that students read the first few chapters in the Enterprise Architecture as Strategy textbook prior to the start of the course, as many of the concepts presented are new to students in this program, and re-reading after the course begins then reinforces these important points.

There are four assignments during the course, plus the Term Project. There is no Module 3 assignment; the expectation is that students will use that time to advance their Term Projects.

Week	Topics	Reading Assignments	Assignments
Week 1 – March 17 to March 23	<u>Syllabus “Scavenger Hunt”!</u> <u>Introduction to Enterprise Architecture,</u> <u>Introduction to CS783 course objectives</u> Some details on the Term Project <u>Review of System Architecture</u> (time permitting)	EAAS: Preface, pp. vii – xi EAAS: Chapter 1 EAAS: Chapter 2 <i>Blackboard – read Module 1 content</i>	<i>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!</i> <i>Think about what you want to do for the Term Project; discuss with instructor over email or before class if you want feedback.</i>
Week 1 – March 17 to	<u>Intro to EA, continued:</u> The three themes of our course and textbook; the	EAAS: Chapter 3	All due by 6am Tuesday morning, March 24th:



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March 23	<p>Core Diagram and business operating models</p> <p><u>Our Current Business Climate and the Challenges for EA; What business is looking for in a CIO</u></p>	<p>Read the first half of <i>Software Architecture Patterns</i></p>	<ul style="list-style-type: none"> • Quiz #1 • Assignment #1 • Term Project Deliverable #1 due (Proposal for your project) <p><i>Supplemental material: Lecture on Explaining Technology to the Non-technical</i></p>
March 28 th	<p>Saturday @ 10am ET: Live Classroom on Assignment 1 Solutions, Preview of Assignment 2</p>		
Week 2 – March 24 to March 30	<p><u>EA Methodology: Methods and EA frameworks, enterprise agile (SAFe)</u></p>	<p>EAAS: Chapter 4</p> <p><i>Blackboard – read Module 2 content</i></p>	
Week 2 – March 24 to March 30	<p><u>Migrating Legacy Systems: A Key EA Challenge</u></p> <p><u>IT Engagement Model, Security & Compliance</u></p>	<p>EAAS: Chapter 5</p> <p>Read the second half of <i>Software Architecture Patterns</i></p>	<p>All due by 6am Tuesday morning, March 31st:</p> <p>Assignment #2 due</p> <p>Quiz #2</p> <p>Term Project Deliverable #2 (Your schedule for your project, including the artifacts you plan to include)</p>
April 4 th	<p>Saturday @ 10am ET: Live Classroom on Assignment 2 Solutions, Preview of Assignment 3</p>		<p>Note: Assignment 3 is challenging and covers Module 4 content; therefore, the due date will be April 14th</p>
Week 3 – March 31 to April 6	<p><u>Software Architecture Patterns – Examples from Richards’ Book & Examples from CS783</u></p> <p><u>Some EA Implementation Technologies:</u></p> <ul style="list-style-type: none"> • Older technologies: SOA and RESTful in the enterprise • New technologies: Blockchain and microservices 	<p>EAAS: Chapter 6</p> <p>Read introduction and chapters 1&2 in Richards textbook</p> <p><i>Blackboard: read Module 3 content</i></p>	



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Week 3 – March 31 to April 6	<u>Architecture Maturity Models</u> <u>Virtualization and Cloud Basics</u>	EAAS: Chapter 7	All due by 6am Tuesday morning, April 7th: Quiz #3 Term Project Deliverable #3
April 11th	NO SATURDAY MORNING SOLUTIONS SESSION today; use the time to work on your term projects 😊		
Week 4 – April 7 to April 13	<u>System Integration & Linking Technologies</u> <u>ERP Systems</u>	<i>Blackboard: read Module 4 content</i> Read Richards chapters 3 & 4	
Week 4 – April 7 to April 13	<u>Big Data Analytics and Multi-modal Databases</u> <u>On-prem Server Room versus Hosted versus Cloud Services</u>	EAAS: Chapter 8	All due by 6am Tuesday morning, April 14th: <ul style="list-style-type: none"> • Assignment #3 • Quiz #4 • Term Project Deliverable #4
April 18th	Saturday @ 10am ET: Live Classroom on Assignment 3 Solutions, Preview of Assignment 4		
Week 5 – April 14 to April 20	<u>Additional New topics in EA: IoT (“Internet of Things”), functional programming languages w/ microservices, Containers and Docker, Artificial Intelligence and Machine Learning</u>	EAAS: Chapter 9	
Week 5 – April 14 to April 20	<u>IT Governance, Part 2: Vendor Management, Outsourcing, and SLAs</u>	<i>Blackboard: read Module 5 content</i> EAAS: Review Chapter 7	All due by 6am Tuesday morning, April 21st: <ul style="list-style-type: none"> • Assignment #4 • Quiz #5 • Term Project Deliverable #5



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April 25th	Saturday @ 10am ET: Live Classroom on Assignment 4 Solutions		
Week 6 – April 21 to April 27	<u>Deploying Your EA: Scaling, Monitoring, and Fault Tolerance; designing to take advantage of cloud architecture</u> DevOps	<i>Blackboard: read Module 6 content</i>	
Week 6 – April 21 to April 27	Term Project Presentations begin (your Facilitator will schedule with you) The Final Lecture: Disaster Recovery and “So You Want to Be a CIO?” <u>Final Exam Review, time permitting</u>		All due by 6am Tuesday morning, April 28th: <ul style="list-style-type: none"> • Assignment #4 • Quiz #6 • Term Project Report and Presentation due!!
Week 7 -- April 28 to May 4	Term Project Presentations Final Exam		Take final exam (should have scheduled through Examity)

CLASS POLICIES

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

Office hours: Your instructor and facilitator will schedule office hours, which they will announce at the start of the course. We often schedule a few “Term Project Questions” sessions during the first weeks of class. Individual consultations can be scheduled as time permits. Please reach out to them to schedule 1:1 time.

Lectures: This course is content-rich, so there are typically at least 2 evening lecture sessions scheduled per week, usually on Wednesday and Thursday evenings 7:30 to 9:00pm, ET (Eastern Time, U.S.). We try to ‘front load’ course content the first two weeks, so that students have sufficient background information to make progress on their Term Projects. Students are highly encouraged to attend these online sessions, if possible. They are always recorded, and the recordings are available in Blackboard. If it is impossible to attend the live sessions, we understand – but it is the student’s responsibility to listen to the recordings and ask follow-up questions of facilitators or instructors.



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Accuracy of Due Dates: This syllabus represents due dates as understood as of its publication in January 2020. 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 if there are 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 or your facilitator 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 must take the Citing Sources quiz in Blackboard and score over 90 in order for facilitators to grade student work – PLEASE do that immediately on the opening of the course.** Students may not collaborate with other students on quizzes, assignments, or the Term Project. This is an upper numbered graduate level 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.**

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 and facilitators unfortunately do 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 – typically 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 or facilitator will stop grading after 25 pages. The page limit does not include the slides for your Term Project presentation. You are responsible for delivering both a Term Project Report and a Presentation; they are two separate deliverables.

“Live” Term Project presentation: It is fun and interesting to see what other students have done for their projects; the Term Project presentations are part of the learning experience. There is limited time when we can schedule presentations, so your presentation must be succinct – **about 30 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. As good team members, students should make an effort to attend presentations of other students within the student's Group.



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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>. All assignments, quizzes, and exams are assumed to be the original work of the student whose name is on the assignment. The instructor and facilitators use *Turnitin* (or an equivalent tool) 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 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.

Exams: The final exam is closed book and cumulative. The test format will be similar to the online quizzes, plus an essay question. There is no mid-term exam. Students will be contacted by Examity to schedule their proctored final exam.

Assignments: There are four Assignments for the class, which may be accessed under the Assignments section of Blackboard. Assignments will be submitted in Blackboard. You must submit to both the assignment dropbox AND the Turnitin (or its equivalent) dropbox. We do our best to ensure timely feedback, but please understand that we also have consuming and demanding jobs in industry. 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.

Saturday Morning Assignment Sessions: **Late assignments cannot be accepted after 9:59am on the Saturday after they are due (the previous Tuesday), because we host live sessions covering the assignment answers on Saturday mornings at 10am ET** (see syllabus and course calendar). These sessions, like the lectures, are recorded – but it is highly encouraged to attend, as the interactive question/answer sessions are beneficial to students and to faculty.

Grading: Your grade is determined as follows:

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