**Course Syllabus – Enterprise Architecture**

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

Office hours 5:30pm

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 “report” is a free PDF download from the O’Reilly website. It is abbreviated as “SAPatterns” below: [https://www.oreilly.com/library/view/software-architecture-patterns/9781491971437/?\_gl=1\*ju0a61\*\_ga\*NTI4MjMwMzUzLjE2NzAyNDM4NDA.\*\_ga\_092EL089CH\*MTY3MDI0Mzg0MC4xLjEuMTY3MDI0Mzg3Mi4yOC4wLjA](https://www.oreilly.com/library/view/software-architecture-patterns/9781491971437/?_gl=1*ju0a61*_ga*NTI4MjMwMzUzLjE2NzAyNDM4NDA.*_ga_092EL089CH*MTY3MDI0Mzg0MC4xLjEuMTY3MDI0Mzg3Mi4yOC4wLjA). ) There is also a download available within the Blackboard site for the course.
* ***Software Architecture: The Hard Parts*** by Neal Ford, Mark Richards, Pramod Sadalage & Zhamak Dehghani, O’Reilly Media, Inc. 2022. ISBN: 978-1-492-08689-5. (This textbook is abbreviated as “SA:THP” below.)

**General Information**

**The on-campus format of CS783 is a “flipped classroom” course. Significant class time is devoted to workshops conducted in small groups, some of which are noted on the schedule below. 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.**

**SNOW EMERGENCY or other cancellations: If Boston University cancels classes on the Charles River Campus, our default setting is to conduct the class over Zoom. Zoom access is included in our Blackboard course site. Instructor will be in touch by email to announce the plan. If there are wide-spread power outages, we will make up the material in another way. It is extremely unusual in Boston to have significant snow accumulations in the fall months, but it has happened. :)**

**The 2024 Fall running of this face-to-face course is scheduled for Mondays. There is one Monday holiday on October 14th; our class meets the next day, Tuesday, October 15th, instead. This is indicated in the schedule below.**

| **Class Meetings** | **Topics** | **Reading Assignments** | **Assignments** |
| --- | --- | --- | --- |
| Monday,  Sept 9th  *Module 1 in Blackboard* | Housekeeping and explanation of assignments and Term Project  Lecture 1: Introduction to the Course and to Enterprise Architecture  Lecture 2: The Operating Model & Alignment with the Business  Introduction to the Term Project and Assignment 1 | EAAS: Preface, pp. vii – xi, Chapter 1,  Chapter 2  SAPatterns: Intro, Chapter 1, Chapter 2  *Blackboard – read Module 1 content* | * *Review Module 0 in Blackboard course, take the quizzes (they do not count toward your grade);* * *Review the syllabus; create your personal schedule for the course based on this syllabus – note that the course covers a lot of material, the pace is fast, and the assignments can be time-consuming!* * *Assignment 1* * *1st Term Project incremental deliverable*   *Think about what you want to do for the Term Project; discuss with instructor over email or before class if you want feedback.* |
| Monday,  Sept 16th  *Module 1 in Blackboard* | Syllabus Scavenger Hunt!  Lecture 3: The Core Diagram  **Workshop #1:**  **“Technical Manager” Workshop** | EAAS: Chapter 3  SAPatterns: Chapters 3, 4, 5 &  Appendix  *Blackboard – read Module 1 content* | **Term Project Deliverable #1 due (Proposal for your project, must be approved by instructor)** |
| Monday,  Sept 23th  *Module 2 in Blackboard* | IT Governance (overview)  Lecture 4: Software Artifacts and Enterprise Architecture Frameworks  Lecture 5: Security and Compliance - The Basics | EAAS: Chapter 3 (review)  SA:THP:  Preface, Chapters 1, 2, and 3  *Blackboard – read Module 2 content* | ***By 6am:***   * **Quiz #1** * **Assignment #1 Due** |
| Monday,  Oct 7th  *Module 2 in Blackboard* | Lecture 6: Stages of Architecture Maturity  **(Tentative: Workshop 2)** | EAAS: Chapter 4,  Chapter 8, pp. 182-186  SA:THP: Chapter 4  Review SAPatterns  *Blackboard – read Module 2 content* |  |
| **Monday, October 14th** | **HOLIDAY - NO CLASS**  **Class is on Tuesday instead** |  |  |
| **Tuesday**,  Oct 15th  *Module 3 in Blackboard* | Lecture 7: IT Engagement Model  Lecture 8: Software Architecture Patterns  *Due Diligence: How do I distinguish what's real from hype? (AI example)* | EAAS: Chapter 5  SA:THP: Chapter 5  *Blackboard – read Module 3 content* | ***Due by 6am:***  **Quiz #2** |
| Monday,  Oct 21st  *Module 3 in Blackboard* | Lecture 9: “Greenfield” Development versus Legacy Systems  Lecture 10: Blockchain  *Software Architecture: The Hard Parts – summary of readings* | EAAS: Chapters 6  SA:THP:  Chapters 6 & 7  *Blackboard: read Module 3 content* | ***All due by 6am***   * **Assignment #2** * **Term Project Deliverable #2 (Your schedule for your project, including the artifacts you plan to include)** |
| Monday,  Oct 28th  *Module 4 in Blackboard* | Lecture 11: System Integration & Linking Technologies  Lecture 12: ERP Systems | SA:THP:  Chapters 8 & 9  *Blackboard: read Module 4 content* | ***Work on assignments and Term Project!*** |
| Monday,  Nov 4th  *Module 4 in Blackboard* | Lecture 13: Big Data Analytics, Data Warehouses/Data Lakes, and LLM in the EA  *Software Architecture: The Hard Parts – summary of Chapters 8 & 9*  **Tentative: Workshop #3** | EAAS: Chapter 8  SA:THP:  Chapters 10 & 11  *Blackboard: read Module 4 content* | ***All due by 6am:***  **Quiz #3**  **Term Project Deliverable #3 due** |
| Monday,  Nov 11th  *Module 5 in Blackboard* | Lecture 14: Outsourcing, Vendor Management, and SLAs  *Software Architecture: The Hard Parts – summary of Chapters 10 & 11* | EAAS: Chapter 7 and Chapter 9  SA:THP:  Chapters 12 & 13  *Blackboard: read Module 5 content* | ***All due by 6am***  **Assignment #3 due**  **Term Project Deliverable #4 due** |
| Monday,  Nov 13th  *Module 5 in Blackboard* | Lecture 15: Deployment topics: Private/Public/Hybrid Cloud, Hosting, On-prem Datacenters  Lecture 16: DevOps, CI/CD pipelines, Docker  *Software Architecture: The Hard Parts – summary of Chapters 12, 13, 14 & 15*  **Tentative: Workshop #4** | SA:THP:  Chapter 14 & 15  *Blackboard: read Modules 5 & 6 content* | ***All due by 6am Tuesday morning:***  **Quiz #4 due by 6am**  **Assignment #4** |
| Monday,  Nov 18th  *Module 6 in Blackboard* | Disruptive Technologies, What's new on the Horizon...  Lecture 17: Deploying Your EA: Scaling, Monitoring, and Fault Tolerance  Lecture 18: Disaster Recovery and Business Continuity  Lecture 19: The Final Lecture: Course Summary and *“So You Want to Be a CIO? -- Building Your Career"* | EAAS: Chapter 8  *Blackboard: read Module 6 content* | **Quiz #5 due by 6am**  **Term Project Deliverable #5 due** |
| Monday, Nov 25th | **Term Project Presentations – entire class (You must attend all presentations)** |  | **Term Project Report and Presentation due!!** |
| **Nov 22 - 26** | **THANKSGIVING HOLIDAY** |  |  |
| Monday,  Dec 42nd | **Term Project Presentations – entire class (You must attend all presentations)** |  | ***Due by 6am Wednesday morning:***  **Quiz #6** |
| Monday,  Dec 11th | **Supplemental workshop, if time allows**  **Final Exam Review** |  |  |
| Monday,  Dec 16th | **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 after class up to 15 minutes (i.e., until 9pm), or we can use break times to answer questions or consult on Term Project. Scheduled phone calls or Zoom sessions are also possible. If there is sufficient interest, we can schedule sessions for Term Project questions for the whole class.

Snow/weather-related cancellation of class: See notice in **blue** text on first page of this syllabus.

Accuracy of Due Dates: This syllabus represents due dates as understood as of its publication (see footer for the date). The most accurate due dates will be reflected in the Blackboard calendar for the course. Instructor will *always* send out a Blackboard email announcement with any changes.

Fall 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 source including from the instructor’s slides or from the Blackboard course materials 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 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 help from the BU writing center or 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 for the Term Project report, 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 informative 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 25 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/academics/policies/academic-conduct-code/> . Except for collaborative in-class workshop sessions, all assignments, quizzes, and exams must be the original work of the student whose name is on the assignment. The instructor uses plagiarism detection tools like SafeAssign and *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 the day 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 times for Final Exam review, but **only the first quiz attempt will be graded.** Note that quiz questions are randomly and automatically selected by Blackboard from a bank of questions for that quiz.

Exams: The final exam is closed book and cumulative. It will be held in class on December 16th; the test format is similar to the online quizzes, plus an essay question. (No quiz questions re-appear on the final.) There is no mid-term exam. Students must bring a laptop to class to take the final exam. **Ensure that your laptop can successfully access the Blackboard site prior to the exam.**

Assignments: Assignments are submitted in Blackboard. You must submit to the assignment dropbox. I will do my best to ensure timely feedback. If you are nervous about getting rapid feedback, feel free to email the instructor. All quizzes and assignments are due by 6am on the day shown in the syllabus. 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 (the incremental Term Project deliverables are averaged together for a fifth assignment) – 25%
* Workshops and class contributions/participation – up to 5% extra credit
* Online quizzes – 15%
* EA Term Project Report – 20%
* EA Term Project Presentation – 10%
* Final Exam – 30%