Syllabus

> This is a single, concatenated file, suitable for printing or saving as a PDF for offline viewing. Please note that some animations or images may not work.

Course Description

> This module is also available as a concatenated page, suitable for printing or saving as a PDF for offline viewing.

MET CS783

Enterprise Architecture

This course builds upon the strong technical foundation of an MSCIS curriculum; by providing students with the CIO-level management perspective and skills of enterprise architecture, in the context of the technologies that implement those architectures. Our Ross, Weil, and Robertson text provides much of the management content of the course, and the online content provides both management and technical skills. Students learn that enterprise architectures are best developed incrementally, by system development projects that are architected to conform to and become part of the overall enterprise architecture. The online content therefore includes many real enterprise system development case studies, showing how these enterprise systems contributed to and helped define the overall enterprise architecture. The course also includes a number of realistic enterprise architecture assignments and an incremental term project with components spanning the course to provide students with hands-on enterprise architecture experience. The course provides students with the understanding and skills needed to define and implement successful enterprise architectures that provide real value to organizations, such as substantially reducing IT costs while improving performance, agility, and alignment of information technology to business goals.

> ## Technical Note
>
> The table of contents expands and contracts (+/- sign) and may conceal some pages. To avoid missing content pages, you are advised to use the next/previous page icons in the top right corner of the learning modules.

Course Learning Objectives

By successfully completing this course, you will be able to:

- Understand scalable system and enterprise integration architectures

- Create common enterprise architecture diagrams
- Assess and document an organization's current enterprise architecture
- Assess and document an enterprise's core business model
- Execute successful enterprise architecture activities in your organizations
- Utilize different models and representations to influence acceptance and continuity of architecture
- Guide EA activities so that EA provides the greatest benefit to your organization, while avoiding the traps and potential harm from poorly managed and executed EA programs

Course Outline

- **Calendar Tool** - You can see many due dates in the calendar tool. You may add your own events there as well. However, please be aware that you may not find all of the important dates for the course listed there. You will stay current by checking announcements, discussions, and emails in the course.
- **Readings** - Each module has both textbook readings and online lectures. Your professor may suggest additional readings during the running of the course.
- **Assignments and deliverables**
  - All assignments and quizzes are due as noted on the online course calendar and this syllabus; these due dates are 6 AM on Tuesdays.
    - **Assignment** - Assignments can be accessed from the Assignments menu.
    - **Assessments/Quizzes** - Quizzes are also listed in the course calendar and accessed from the Assessments menu.
  - Extensions: Because assignment solutions are discussed in the Saturday morning Live Classroom, students may negotiate with their facilitator regarding late submission, up to 10 AM on Saturday morning after the assignment is due. *Do not assume that your facilitator will accept an extension* without discussing it with him or her prior to the due date/time.
  - The Term Project is the critical deliverable for the course. A complete Term Project submission includes both a written report and a presentation, which will be delivered in a Live Classroom during the final week of the course. It is highly recommended that students make an effort to attend as many Term Project presentations as possible; they provide a rich learning opportunity.
- **Discussion** - There are threaded discussions for each module. These discussions are moderated by your facilitator. Postings for each discussion should be completed by the assigned due dates. There are also general discussions boards, which are not graded, for you to use to discuss any issues with your classmates. Please see the Discussion Module on the home page for more details.
- **Content for Quizzes and Final Exam**
  - *Students are responsible for all material in the textbook chapters assigned, the module lectures (a.k.a. "narratives"), and the accompanying slide decks that are covered in the Live Classroom sessions.*
  - These slide decks are sent out in advance of the Live Classrooms by posting in the "Communications from Marcia Nizzari" discussion thread. While they follow the narratives closely, the slide decks may contain some new material that has not yet made its way into the Module narratives. (Unfortunately, Announcements cannot have attachments, but all Live Classroom sessions will have an announcement posted close to the actual time to remind the class of the upcoming session.)

- **Live Classroom Sessions:**
  - Your instructor will schedule Live Classroom lecture sessions at the beginning of the course. All sessions will be noted in the online course calendar. Every effort is made to "front load" the material so that there is time to assimilate it before the quizzes.
  - All instructor-delivered Live Classroom sessions will be recorded so that students who cannot attend a particular session can listen to the lecture and discussion at their convenience. It is highly recommended that students attend Live Classroom sessions; participating in the discussions and comments is an important part of the learning experience!
  - Your facilitator will work with his or her Group to set up additional Live Classroom sessions to discuss Term Projects or answer any questions, as needed.

Module Review of System Architecture from CS 682

This module is a quick review of the system architecture content from CS 682 with the purpose of helping students refresh their knowledge to prepare for the enterprise architecture material in this course.

Module 1 – Introduction to Enterprise Architecture

- Lecture 1 - Introduction to Enterprise Architecture
  - Multimedia Object on the Layers of Enterprise Architecture
- Lecture 2 - The Operating Model & Alignment with the Business
- History of System Architecture (review)

Module 2 – EA Artifacts, Governance, and Legacy System Migration

- Lecture 3 - EA Frameworks, The Core Diagram, and Architecture Maturity Levels
  - Includes Multimedia Object on Good Start Genetics' EA Core Diagram
- Lecture 4 - Governance, Part I: Basics on IT Governance, Development Process, Security & Compliance
- Lecture 5 - Migrating Legacy Systems – A Key EA Challenge

Module 3 – The IT Engagement Model and Some Key EA Technologies

- Lecture 6 - IT Engagement Model
- Lecture 7 - Looking at Some EA Implementation Technologies – SOA and RESTful
- Lecture 8 - Virtualization, SaaS/PaaS/IaaS/etc. and Cloud Basics

Module 4 – System Integration and Linking Technologies

- Lecture 9 - System Integration
- Lecture 10 - Data Warehouses as an Integration Strategy
- Lecture 11 - ERP Systems – The Good, The Bad, and The Ugly
- Additional material will cover Big Data analytics, Hadoop, alternate database organizations like triple-stores

Module 5 – IT Governance, Part 2 and Deployment Choices for Your EA

- Lecture 12 - Governance, Part 2: Vendor Management, Outsourcing, and Service Level Agreements (SLAs)
- Lecture 13 - Strategic Deployment Choices – Data Center, Hosted, Cloud, or Hybrid?
- Additional material will cover Chaos Engineering, blockchain and other disruptive technologies and approaches

Module 6 – Additional Deployment and Governance Topics, and Final Lecture

- Lecture 14 - Other Deployment Topics – Scaling, Monitoring, and Fault Tolerance
- Lecture 15 - Disaster Recovery
- Lecture 16 - The Final Lecture – "So You Want to Be a CIO?"

Module 7 – Prepare for and take the final exam

You will prepare for and take the proctored final exam.

The course will remain open two weeks after the final exam, so that you can continue discussions and ask any questions about enterprise architecture, your grades or the course. This is also a time when we enter into a dialog where we endeavor to learn from you how we can modify the course so that it better meets your needs.

Instructor

Robert Schudy, PhD

808 Commonwealth Avenue
Boston, MA 02215

Office Hours by appointment or via email

rschudy@bu.edu
(617) 358-0009

Dr. Schudy received his doctorate in computer science from the University of Rochester. He has conducted research and developed systems at Hewlett Packard Laboratories (where he initiated or assisted in the bubble jet, laser printer, and RISC/Unix areas), Bolt Beranek and Newman (where he pioneered intelligent aircraft systems and autonomous air vehicles). He has served as chief scientist for startups and has architected designed and managed the development of many computer systems.

Course Developers

Marcia Nizzari

Marcia Nizzari has been a software architect, technical manager, a CTO, and a CIO over her long 30+ year career in high technology. Currently, she is Chief Informatics Officer at Claritas Genomics, a clinical laboratory that is a spin-off of Boston Children's Hospital. They do genetic diagnostic tests for sick children; it's difficult to think of a more enrolling mission!

Over the past 12 years, Marcia has exclusively worked at biotech companies – in reverse order, PatientsLikeMe, Good Start Genetics, Cambridge Research & Instrumentation, the Broad Institute of MIT and Harvard, and the Whitehead Institute. But she has a very diverse background that also includes avionics, real-time process control, financial services, and process manufacturing – so she usually has some experience that relates to the work experience of the students in CS783. Marica is also first inventor on two broad software patents and earned her master's degree (MSCS) from Boston University.

Dr. Robert Schudy

Dr. Schudy made significant contributions to this course. He has been practicing advanced database management in industry and teaching database classes in industry and at BU for years. His responsibilities as an Associate Professor in the MET Computer Science Department include faculty coordination of the database area and faculty coordination of this MSCIS online program.

He received a Ph.D. in Computer Science from the University of Rochester. He has conducted research and developed systems at Hewlett Packard Laboratories, and Bolt Beranek and Newman. He has served as chief scientist for startups and have architected designed and managed the development of many computer systems.

Bill Cullen

Bill Cullen is the award-winning designer of the Enterprise Service Bus. He has been helping corporations develop and mature their enterprise architectures for many years. Bill developed the lectures for Module 5, which introduces the current leading edge enterprise technologies. As Bill was wrapping up Module 5, a large local firm pleaded with Bill to help them with some critical enterprise architecture problems while at the same time two other firms wanted him. Bill reports that the large firm has adopted Ross, Weill, and Robertson as their EA "bible." With Bill's help they will succeed, but it means that Bill has been too busy to provide us with his more detailed biography. Hopefully his work demands will slacken a bit and Bill will be able to join us in a Live Classroom or two.
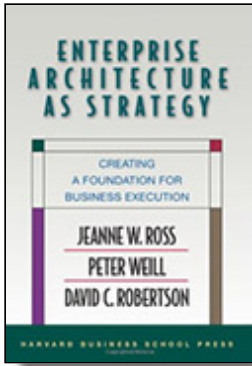
Materials and Resources

Required Book

Ross, J. W., Weill, P., & Robertson, D. C. (2006). *Enterprise architecture as strategy.* Harvard Business Press.

ISBN-13: 9781591398394
ISBN-10: 1591398398

This textbook can be purchased from <u>Barnes and Noble at Boston University</u>.

This textbook will be referred to in syllabus as "EAAS".

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Recommended Software: Visio Professional

In this class we will use Visio Professional or another tool of your choice to create enterprise architecture diagrams. You can obtain Visio Professional free of charge from Microsoft Imagine, to which the College subscribes. Click here for more information.

Web-Based Resource: Turnitin.com

As part of this course you have access to the Turnitin.com service (http://turnitin.com). You can submit your papers or anything that you wish to Turnitin, which compares the text that you submit with a large database of text from the web and other sources, including millions of papers analyzed by Turnitin. Turnitin uses artificial intelligence algorithms to identify text that may have been copied into a document or paraphrased without attributing the source. Your facilitators and I use Turnitin to verify that your work is original. You should consider submitting text that you find on the web to Turnitin before you include it as a reference, because you may find that it has been plagiarized, and you should reference the original source. You should run your term papers through Turnitin to verify that you didn't inadvertently incorporate someone else's work without properly referencing it. If you submit a paper to Turnitin you will still need to submit it in the usual way through Vista. We routinely submit term projects, assignments, and discussion posts to Turnitin, to verify that they are original and not copied from the web or elsewhere. All of the work that you submit, whether in exercises, discussion postings or term project, should be your own original writing, or

quoted and properly referenced material from other original sources. There is a Turnitin discussion forum where you can discuss and learn about Turnitin and the amazing things that it does.

Live Classroom

In this class we will use web-based Live Classrooms. Live Classroom sessions provide you with an opportunity to talk with me and ask me questions. Sometimes I answer these questions using slides or electronic whiteboard. The Live Classroom supports chat, voice conferencing over telephone or Internet, and a variety of visual interaction facilities, including PowerPoint slides and even video if we choose to use it.

To take advantage of the ability to talk with me and each other over the Internet, I recommend that you purchase a headset designed to plug into the audio jacks or USB port on your computer. These headsets are available from many vendors. The price ranges from $10 for a basic but serviceable model up to $50 for a professional model. You can also telephone into the Live Classroom as you would to a conference call.

You do not need to be present when the Live Classroom is held to listen to and watch the sessions, because I record Live Classroom sessions, particularly when students ask good leading questions. If students are interested in material that is not already in the course, I often prepare a lecture with slides and deliver it and record it using Live Classroom.

I look forward to talking with you, discussing the material, and answering your questions.

In order to participate in these discussions or to access the archived sessions, you will need to go to the Live Classroom link on your homepage (located near the bottom of the page) and complete the Setup Wizard. It is recommended you finish all of the login steps at least five minutes prior to the start of the synchronous discussion, so that you are fully prepared to access your live class session.

Live Offices

Live Offices are a good way for facilitators and students to review their assignments or other course material, because it supports convenient document or web sharing and voice. A headset is convenient for Live Office. Since Live Office meetings with your facilitator or professor are usually private sessions, you only need to schedule a session with your facilitator or professor. If you wish to use a Live Office for a group meeting, it is convenient to have your facilitator or professor create a discussion topic to help coordinate the meeting. We can also create additional Live Offices.

Boston University Library Information

Boston University has created a set of videos to help orient you to the online resources at your disposal. An introduction to the series is below:

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All of the videos in the series are available on the Online Library Resources page, which is also accessible from the Campus Bookmarks section of your Online Campus Dashboard. Please feel free to make use of them.

As Boston University students, you have full access to the BU Library. From any computer, you can gain access to anything at the library that is electronically formatted. To connect to the library, use the link http://www.bu.edu/library. You may use the library's content whether you are connected through your online course or not, by confirming your status as a BU community member using your Kerberos password.

Once in the library system, you can use the links under "Resources" and "Collections" to find databases, eJournals, and eBooks, as well as search the library by subject. Some other useful links follow:

> Go to http://www.bu.edu/library/research/collections to access eBooks and eJournals directly.
>
> If you have questions about library resources, go to http://www.bu.edu/library/help/ask-a-librarian to email the library or use the live-chat feature.
>
> To locate course eReserves, go to http://www.bu.edu/library/services/reserves.

Please note that you are not to post attachments of the required or other readings in the water cooler or other areas of the course, as it is an infringement on copyright laws and department policy. All students have access to the library system and will need to develop research skills that include how to find articles through library systems and databases.

Free Tutoring Service

Free online tutoring with SMARTHINKING is available to BU online students for the duration of their courses. The tutors do not rewrite assignments, but instead teach students how to improve their skills in the following areas: writing, math, sciences, business, ESL, and Word/Excel/PowerPoint.

You can log in directly to SMARTHINKING from Online Campus by using the link in the left-hand navigation menu of your course.

[YouTube]

Please Note

The SMARTHINKING service can be used for Boston University online class work only. Use of this service for personal purposes or for anything other than Boston University online class work will result in deactivation of your SMARTHINKING account.

Study Guide

The following material is collected here for your convenience. The required readings, discussion particulars, and assignment particulars can also be found within the modules, in the "Discussion" and "Assignment" sections of the course respectively.

Module 1 Study Guide and Deliverables

Readings:
- Online lectures
- EAAS: Chapter 1 To Execute Your Strategy, First Build Your Foundation
- EAAS: Chapter 2: Define Your Operating Model
- Live Classroom lectures – listen to the recordings if you cannot

	be present during the Live Classroom session
Discussions:	Optional discussion 1 postings end March 20 at 6:00 AM ET
Assignments:	Assignment 1 due March 20 at 6:00 AM ET
Assessments:	Quiz 1 due March 20 at 6:00 AM ET
Term Project Milestones:	Your deliverable is a conceptual-level description. For example, if your term project is the EA for an organization, then you should identify the organization and whether your EA is new or an enhancement. This is due March 20 at 6:00 AM ET
Live Classrooms:	Tuesday, March 13 at 8:00 PM ET Wednesday, March 14 at 8:00 PM ET Saturday, March 17 at 10 AM ET Saturday, March 17 at 7 PM ET

Module 2 Study Guide and Deliverables

Readings:	- Online lectures - EAAS: Chapter 3: Implement the Operating Model via Enterprise Architecture - EAAS: Chapter 4: Navigate the Stages of Enterprise Architecture Maturity - Live Classroom lectures – listen to the recordings if you cannot be present during the Live Classroom session
Discussions:	Optional discussion 2 postings end March 27 at 6:00 AM ET

Assignments:	Assignment 2 due March 27 at 6:00 AM ET
Assessments:	Quiz 2 due March 27 at 6:00 AM ET
Term Project Milestones:	Term project plan, including deliverable schedule due March 27 at 6:00 AM ET
Live Classrooms:	Mid-week Live Classroom TBD Saturday, March 24 at 10 AM ET Saturday, March 24 at 7 PM ET

Module 3 Study Guide and Deliverables

Readings:	• Online lectures • EAAS: Chapter 5: Cash in on the Learning • Live Classroom lectures – listen to the recordings if you cannot be present during the Live Classroom session
Discussions:	Optional discussion 3 postings end April 3 at 6:00 AM ET
Assignments:	Assignment 3 due April 3 at 6:00 AM ET
Assessments:	Quiz 3 due April 3 at 6:00 AM ET
Term Project Milestones:	If your term project is an EA, submit the first drafts of your key EA artifacts, or comparable documents if your project is not an EA. This is due April 3 at 6:00 AM ET
Live Classrooms:	Mid-week Live Classroom TBD Saturday, March 31 at 10 AM ET Saturday, March 31 at 7 PM ET

Module 4 Study Guide and Deliverables

Readings:
- Online lectures
- EAAS: Chapter 6: Build the Foundation One Project at a Time
- Live Classroom lectures – listen to the recordings if you cannot be present during the Live Classroom session

Discussions: Optional discussion 4 postings end April 10 at 6:00 AM ET

Assignments: Assignment 4 due April 10 at 6:00 AM ET

Assessments: Quiz 4 due April 10 at 6:00 AM ET

Term Project Milestones: If your term project is an EA, submit drafts of all artifacts, and a draft of your term project report and/or presentation. This is due April 10 at 6:00 AM ET

Live Classrooms: Mid-week Live Classroom TBD
Saturday, April 7 at 10 AM ET
Saturday, April 7 at 7 PM ET

Module 5 Study Guide and Deliverables

Readings:
- Online lectures
- EAAS: Chapter 7: Use Enterprise Architecture to Guide Outsourcing
- Live Classroom lectures – listen to the recordings if you cannot be present during the Live Classroom session

Discussions: Optional discussion 5 postings end April 17 at 6:00 AM ET

Assignments: Assignment 5 due April 17 at 6:00 AM
ET

Assessments: Quiz 5 due April 17 at 6:00 AM ET

Term Project   By the end of this module you should
Milestones: submit your final presentation slides, in
preparation for your presentation in
module 6. This is due April 17 at 6:00
AM ET

Live   Mid-week Live Classroom TBD
Classrooms: Saturday, April 14 at 10 AM ET
Saturday, April 14 at 7 PM ET

Module 6 Study Guide and Deliverables

Readings:
- Online lectures
- EAAS: Chapter 8: Now –
Exploit Your Foundation for
Profitable Growth
- EAAS: Chapter 9: Take Charge!
The Leadership Agenda
- Live Classroom lectures – listen
to the recordings if you cannot
be present during the Live
Classroom session

Discussions: There are no optional or required
discussions in module 6.

Assignments: There are no assignments due in
module 6.

Assessments: Quiz 6 due April 24 at 6:00 AM ET

Term Project   Final term project report documents
Milestones: due April 24 at 6:00 AM ET

Live   Mid-week Live Classroom TBD
Classrooms: Saturday, April 21 at 10 AM ET
Saturday, April 21 at 7 PM ET

Final Exam Details

The Final Exam is a proctored exam available from **Wednesday, April 25 at 6:00 AM ET to Saturday, April 28 at 11:59 PM ET**. The Computer Science department requires that all final exams be proctored.

The final exam consists of a combination of choose multiple, multiple choice, true/false and matching questions. The format of the questions is very similar to those in the weekly quizzes. You will have three (3) hours to complete the final exam; there should be plenty of time. The final exam is configured so that if you run out of time you will be notified, but you will still be permitted to continue taking the final. This feature is intended to permit you to complete the final in spite of technical difficulties.

Blackboard records the time for your submission of each question, so we can grade you fairly even if there are technical or other difficulties. Your final exam will be proctored remotely. The final exam will be released in the same way that the quizzes are released.

You will receive a technical support hotline number before the start of the exam. Please bring this number with you to the exam.

Grading Information

Course Structure

The course is organized as a sequence of six main weekly modules plus a seventh module for the proctored final exam. The six main modules include textbook readings and online lectures in text, graphic, and video formats. Students have an opportunity each week to interact with their faculty in synchronous multimedia sessions; these live sessions are recorded for students who can't make the live sessions. Each of the first six modules includes graded homework assignments, discussions, review questions and a graded quiz. Students define, plan and implement their own term projects. Faculty support their students by reviewing their assignments, term project concepts, plans, artifacts, papers, and presentations, and by meeting with students in multimedia Live Offices. In the sixth week students present their term projects to their classmates and faculty using a multimedia conferencing system integrated into the course.

Grade Weighting

There are a total of 19 graded items (6 discussions, 5 assignments, 6 quizzes, 1 term project, and 1 final exam). Course letter grades are determined in a three-phase process designed to accurately determine how well each student has demonstrated that they understand and can use the subject matter of the course. The process begins when the professor computes the weighted scores, using the weighting below. Your professor examines not only the overall weighted score, but also each student's scores in each of the five areas, and the trend of scores in each of

these areas. The professor then determines a letter grade for each student. The professor pays particular attention to the final exam score. He often reviews entire final exams to get a better understanding of how well each student understands each area. The professor then sends a spreadsheet containing all graded items for all students, and the proposed letter grades, to our facilitators, requesting review and comment. After the professor receives feedback from the facilitators he finalizes the grades and uploads them to the University Information System, where students can see their grades via the Student Link.

All graded items are graded as a percentage of the maximum anticipated score; this traditional American grading system is sometimes termed "out of 100." Rarely a student may so exceed our expectations that they earn more than 100.

Grading Structure and Distribution

The following table summarizes the five kinds of graded items and the default percentage of grades determined by each of these kinds of graded items. Each of these graded items is explained below.

Overall Grading Percentages	
Assignments	20
Quizzes	20
EA Term Project	25
Weekly Term Project Deliverables	5
Final Exam	30
Class Contribution (including discussions and workshops)	Up to 5% extra credit

Assignments

In each of the first five weekly modules you will have homework assignments. Feel free to do additional exercises of your own design and submit them to your facilitator for feedback. If you wish, you can ask your facilitator or professor for additional exercises tailored to your background and educational needs.

If for any reason you are unable to meet any assignment deadline, contact your facilitator, preferably in advance. Extensions may be granted under mitigating circumstances. Scores for assignments submitted late without extenuating circumstances will be penalized ten percent. Assignments submitted late near the end of the term may not be graded, because our facilitators are very busy grading term projects, resulting in zero scores for those assignments.

If you are stuck, and just can't complete part of an assignment, then submit what you can complete to your facilitator, asking for help. Your facilitator may then choose to provide you with guidance in the areas where you are stuck, and return the partial assignment to you for further work and resubmission. Your facilitator will deduct from your score on the resubmission for any portion of the solution that your facilitator provided to help you. Your professor authorizes our facilitators to regrade based on resubmissions. Whether a particular resubmission should be regraded is up to the judgment of the facilitator. Resubmissions may not be graded near the end of the term when facilitators are very busy grading the term projects. Resubmissions are intended to help struggling students who are stuck, and resubmissions are not intended for routine use.

Participation: Discussions and Class Contributions

You can earn extra credit based on contributions that you make to your classmates' learning. Examples including contributions in the interactive sessions with your professor that are particularly helpful to your classmates, exceptionally pedagogically valuable posts to the discussion forums, helping your classmates in the discussions, and even suggesting improvements to the course. The quality of your contributions is more important than the quantity.

Quizzes

There is one graded quiz in each of the first six modules. The results for your quiz will be released as soon as possible after the quiz closes. When the quiz results are released, you will be able to see the questions, your answers, the correct answers, and tutorial material, just as in the review quizzes. Your professor releases the quiz results. Quizzes may be taken after the results have been released, with the professor's permission, but the scores on late quizzes do not count toward your grade.

The Enterprise Architecture Term Project

The term project for this course has a significant research component, as is appropriate for the advanced Masters level of this course. You will be asked to define the term project yourself, with my help and the help of your facilitator. A typical term project will be the development of key enterprise architecture artifacts for a real organization, or the extension and refinement of an existing enterprise architecture. There are incremental milestone deliverables for the term project each week. These will help your facilitator and me guide you through the process, and also help us guide you to a term project of reasonable scope and risk. I will conduct weekly Live Classroom sessions on the term project, where we can discuss your term project ideas and where I can help you as you work through your enterprise architecture research project. Students may alternatively choose to research other enterprise architecture topics. If you choose a term project problem other than an enterprise architecture for an organization I ask that you work closely with your facilitator and me, so that we can help you, to minimize your project risk. Students present their term projects in Week 6, using the Adobe Connect multimedia facilities integrated into the course; we will use the Live Offices for this. The presentations will be recorded, and we will publish the best presentations for the whole class to enjoy. Your incremental term project milestone deliverables will together count as 10% of your term project score; your facilitator will determine this score based on all of the milestone deliverables specified in your project

plan. The remaining 90% of your term project score is based on your term project report and term project presentation, which are due in Week 5, with presentations in Week 6.

Grading Structure

Your assignments, discussions, quizzes, term project, and final exam will be graded on a percentage basis. The following table summarizes typical correspondence of percentage grades and letter grades for individual graded items. The process and criteria for determining course letter grades is more complex than computing the weighted average grade and looking up the letter grade in the table below.

Letter Grade	Approximate percentage grade range	Grade Points
A	95–100	4.0
A−	90 < 95	3.7
B+	85 < 90	3.3
B	80 < 85	3.0
B−	75 < 80	2.7
C+	70 < 75	2.3
C	65 < 70	2.0
C−	60 < 65	1.7
D	55 < 60	1.0
F	< 55	0

Note that C is the lowest grade that satisfies degree requirements in graduate courses and that you need to maintain a grade point average of 3.0 or better to graduate. For more information, see the MSCIS Academic Policies online manual.

The percentage ranges above are approximate. Your letter grade is determined by your professor as the best overall measure of how well you have demonstrated that you understand the material, taking into separate consideration your performance in the quizzes, assignments, term project, discussions, and final exam. Additional grading criteria include any substantial difference in your performance on the proctored final exam and the general trend of your scores over the term. The actual grade ranges will be adjusted to reflect the difficulty of graded items.

Timeliness

Many learning activities require sharing your assignments and opinions with your classmates. It is very important that you, as well as your classmates, submit your assignments on a timely basis.

Assignment Rubric

Content (70%) Measures the quality of the original intellectual content in the submission Quoted material counts in the Resource criterion, not here.		
Grade	Range	Description
A	95–100	The assignment demonstrates exceptionally deep understanding of all relevant subject matter and its inter-relationships, with exceptionally thorough coverage of all major relevant issues. All content in the submission is entirely relevant and meaningful.
A−	90–95	The assignment demonstrates very deep understanding of all relevant subject matter and its inter-relationships, with thorough coverage of all major relevant issues. All content in the submission is relevant and meaningful.
B+	85–90	The assignment demonstrates deep understanding of all relevant subject matter and its inter-relationships, with thorough coverage of almost all of the major relevant issues. All content in the submission is reasonably meaningful and on-topic.
B	80–85	The assignment demonstrates moderately deep understanding of much relevant subject matter, with fairly thorough coverage of almost all of the major relevant issues. All content in the submission is reasonably meaningful and on-topic.
B−	75–80	The assignment demonstrates overall understanding of much relevant subject matter, with reasonable coverage of the major relevant issues. Most content in the submission is reasonably meaningful and on-topic.
C+	70–75	The assignment demonstrates some understanding of the relevant subject matter, and covers some of the major relevant issues. Only some of the content in the submission is meaningful and on topic.
C	65–70	The assignment demonstrates understanding of a small portion of the relevant subject matter. Some of the major relevant issues are covered. The focus is mostly off topic or on secondary topics, though a small portion of the content in the submission is meaningful and on topic.
C−	60–65	The assignment demonstrates little understanding or insight of the relevant subject matter, and covers a small fraction of the major relevant issues. The focus of the submission is off

		topic or on insubstantial or secondary topics.
D	55–60	The assignment demonstrates almost no understanding or insight of the relevant subject matter, and covers almost none of the major relevant issues. The content of the submission is almost entirely unfocused.
F	0–55	The assignment demonstrates no understanding or insight of the relevant subject matter, and covers none of the major relevant topics.

Exposition (20%) Measures how well the content is expressed		
Grade	Range	Description
A	95–100	The entire assignment is exceptionally organized; the presentation of all ideas and designs is exceptionally clear and persuasive.
A−	90–95	The entire assignment is very organized; the presentation of all ideas and designs is very clear and persuasive.
B+	85–90	The entire assignment is organized; the presentation of all ideas and designs is clear and persuasive.
B	80–85	Most of the assignment is organized; the presentation of most ideas and designs is clear and persuasive.
B−	75–80	Most of the assignment is reasonably organized; the presentation of most ideas and designs is generally clear.
C+	70–75	Some parts of the assignment are disorganized; some parts are hard to understand.
C	65–70	About half of the assignment is disorganized; about half is hard to understand
C−	60–65	Most parts of the assignment are disorganized; most parts are hard to understand.
D	55–60	Almost all of the assignment is disorganized and hard to understand.
F	0–55	The assignment is entirely disorganized and hard to understand.

Resource Selection, Use and Citation (10%) Measures how well prior works are identified, used, and cited to support the given answers

Grade	Range	Description
A	95–100	Use of relevant, high quality sources to support the given answers, and completely correct quotation and citation of those sources. The proportion of quoted material to original material does not exceed what is justified by the assignment.
A−	90–95	Good identification and use of sources of generally good quality to support the given answers, and correct quotation and citation of those sources. The proportion of quoted material to original material does not exceed what is justified by the assignment.
B+	85–90	Identification and use of appropriate sources to support the given answers, and correct quotation and citation of those sources. The proportion of quoted material to original material does not exceed what is justified by the assignment.
B	80–85	Identification and use of some appropriate sources to support the given answers, and generally correct quotation and citation of those sources. The proportion of quoted material to original material may slightly exceed what is justified by the assignment.
B−	75–80	Identification and use of a few appropriate sources to support the given answers, and generally correct quotation and citation of those sources. The proportion of quoted material to original material may moderately exceed what is justified by the assignment.
C+	70–75	Weak identification and use of sources, with some weak sources, to support the given answers. Marginal quoting and citing of those sources. Some quoted material may be irrelevant. The proportion of quoted material to original material may significantly exceed what is justified by the assignment.
C	65–70	Identification of only weak sources such as Wikipedia, or inappropriate sources, to support the given answers. Possibly marginal citing and quoting of those sources. Some quoted material may be irrelevant. The proportion of quoted material to original material may significantly exceed what is justified by the assignment.
C−	60–65	Identification of inappropriate or inapplicable sources, to support the given answers. Possibly marginal citing and quoting. The proportion of quoted material to original material may significantly exceed what is justified by the assignment.
D	55–60	Identification of poor, few or no sources to support the given answers. Inadequate crediting of sources, such as including sources in the references but not citing them in the body of the document. The proportion of quoted material to original material may significantly exceed what is justified by the assignment.
F	0–55	No inclusion of sources to support the given answers. Copying from sources in the

references but not quoting the copied material or other failure to cite and quote sources as required by BU policy, as documented in the syllabus.

> If there is substantial plagiarism in a submission the entire assignment will receive a zero, and the case may be referred to the Student Conduct Committee for further action.

Term Project Rubric

Content (60%)		
Measures the quality of the original intellectual content in the submission Quoted material counts in the Resource criterion, not here.		
Grade	Range	Description
A	95–100	The submission demonstrates exceptionally deep understanding of all relevant subject matter and its inter-relationships, with exceptionally thorough coverage of all major relevant issues. All content in the submission is entirely relevant and meaningful.
A−	90–95	The submission demonstrates very deep understanding of all relevant subject matter and its inter-relationships, with thorough coverage of all major relevant issues. All content in the submission is relevant and meaningful.
B+	85–90	The submission demonstrates deep understanding of all relevant subject matter and its inter-relationships, with thorough coverage of almost all of the major relevant issues. All content in the submission is reasonably meaningful and on-topic.
B	80–85	The submission demonstrates moderately deep understanding of much relevant subject matter, with fairly thorough coverage of almost all of the major relevant issues. All content in the submission is reasonably meaningful and on-topic.
B−	75–80	The submission demonstrates overall understanding of much relevant subject matter, with reasonable coverage of the major relevant issues. Most content in the submission is reasonably meaningful and on-topic.
C+	70–75	The submission demonstrates some understanding of the relevant subject matter, and covers some of the major relevant issues. Only some of the content in the submission is meaningful and on topic.

C	65–70	The submission demonstrates understanding of a small portion of the relevant subject matter. Some of the major relevant issues are covered. The focus is mostly off topic or on secondary topics, though a small portion of the content in the submission is meaningful and on topic.
C−	60–65	The submission demonstrates little understanding or insight of the relevant subject matter, and covers a small fraction of the major relevant issues. The focus of the submission is off topic or on insubstantial or secondary topics.
D	55–60	The submission demonstrates almost no understanding or insight of the relevant subject matter, and covers almost none of the major relevant issues. The content of the submission is almost entirely unfocused.
F	0–55	The submission demonstrates no understanding or insight of the relevant subject matter, and covers none of the major relevant topics.

Exposition (20%) Measures how well the content is expressed		
Grade	Range	Description
A	95–100	The entire submission is exceptionally organized; the presentation of all ideas and designs is exceptionally clear and persuasive.
A−	90–95	The entire submission is very organized; the presentation of all ideas and designs is very clear and persuasive.
B+	85–90	The entire submission is organized; the presentation of all ideas and designs is clear and persuasive.
B	80–85	Most of the submission is organized; the presentation of most ideas and designs is clear and persuasive.
B−	75–80	Most of the submission is reasonably organized; the presentation of most ideas and designs is generally clear.
C+	70–75	Some parts of the submission are disorganized; some parts are hard to understand.
C	65–70	About half of the submission is disorganized; about half is hard to understand.
C−	60–65	Most parts of the submission are disorganized; most parts are hard to understand.

| D | 55–60 | Almost all of the submission is disorganized and hard to understand. |
| F | 0–55 | The submission is entirely disorganized and hard to understand. |

| Resource Selection, Use and Citation (20%) | | |
Measures how well prior works are identified, used, and cited		
Grade	Range	Description
A	95–100	Exceptional identification and use of relevant high quality sources and completely correct citation of those sources.
A−	90–95	Good identification and use of sources of generally good quality and correct citation and quotation of those sources.
B+	85–90	Identification and use of appropriate sources and generally correct citation and quotation of those sources.
B	80–85	Identification and use of some appropriate sources, with generally correct quotation and citation.
B−	75–80	Identification of a few appropriate generally appropriate sources and generally correct citation and quotation.
C+	70–75	Weak identification and use of sources, with some weak sources, omissions and possibly marginal citing and quoting.
C	65–70	Identification of only weak sources such as Wikipedia, inappropriate sources, and possibly marginal citing and quoting.
C−	60–65	Identification of inappropriate or inapplicable sources and possibly marginal citing and quoting.
D	55–60	Identification of poor, few or no sources when that would be appropriate. Inadequate crediting of sources, such as including sources in the references but not citing them in the body of the document.
F	0–55	No inclusion of sources when that would be appropriate. Copying from sources in the references but not quoting the copied material or other failure to cite and quote sources as required by BU policy, as documented in the syllabus.

> If there is substantial plagiarism in a submission the entire submission will receive a
> zero, and the case may be referred to the Student Conduct Committee for further
> action.

Academic Conduct Policy

Please visit Metropolitan College's website for the full text of the department's *Academic Conduct Code*.

A Definition of Plagiarism

"The academic counterpart of the bank embezzler and of the manufacturer who mislabels products is the plagiarist: the student or scholar who leads readers to believe that what they are reading is the original work of the writer when it is not. If it could be assumed that the distinction between plagiarism and honest use of sources is perfectly clear in everyone's mind, there would be no need for the explanation that follows; merely the warning with which this definition concludes would be enough. But it is apparent that sometimes people of goodwill draw the suspicion of guilt upon themselves (and, indeed, are guilty) simply because they are not aware of the illegitimacy of certain kinds of "borrowing" and of the procedures for correct identification of materials other than those gained through independent research and reflection."

"The spectrum is a wide one. At one end there is a word-for-word copying of another's writing without enclosing the copied passage in quotation marks and identifying it in a footnote, both of which are necessary. (This includes, of course, the copying of all or any part of another student's paper.) It hardly seems possible that anyone of college age or more could do that without clear intent to deceive. At the other end there is the almost casual slipping in of a particularly apt term which one has come across in reading and which so aptly expresses one's opinion that one is tempted to make it personal property."

"Between these poles there are degrees and degrees, but they may be roughly placed in two groups. Close to outright and blatant deceit-but more the result, perhaps, of laziness than of bad intent-is the patching together of random jottings made in the course of reading, generally without careful identification of their source, and then woven into the text, so that the result is a mosaic of other people's ideas and words, the writer's sole contribution being the cement to hold the pieces together. Indicative of more effort and, for that reason, somewhat closer to honest, though still dishonest, is the paraphrase, and abbreviated (and often skillfully prepared) restatement of someone else's analysis or conclusion, without acknowledgment that another person's text has been the basis for the recapitulation."

The paragraphs above are from H. Martin and R. Ohmann, *The Logic and Rhetoric of Exposition, Revised Edition.* Copyright 1963, Holt, Rinehart and Winston.

Academic Conduct Code

I. **Philosophy of Discipline**

The objective of Boston University in enforcing academic rules is to promote a community atmosphere in which learning can best take place. Such an atmosphere can be maintained only so long as every student believes that his or her academic competence is being judged fairly and that he or she will not be put at a disadvantage because of someone else's dishonesty. Penalties should be carefully determined so as to be no more and no less than required to maintain the desired atmosphere. In defining violations of this code, the intent is to protect the integrity of the educational process.

II. **Academic Misconduct**

Academic misconduct is conduct by which a student misrepresents his or her academic accomplishments, or impedes other students' opportunities of being judged fairly for their academic work. Knowingly allowing others to represent your work as their own is as serious an offense as submitting another's work as your own.

III. **Violations of this Code**

Violations of this code comprise attempts to be dishonest or deceptive in the performance of academic work in or out of the classroom, alterations of academic records, alterations of official data on paper or electronic resumes, or unauthorized collaboration with another student or students. Violations include, but are not limited to:

A. **Cheating on examination**. Any attempt by a student to alter his or her performance on an examination in violation of that examination's stated or commonly understood ground rules.

B. **Plagiarism.** Representing the work of another as one's own. Plagiarism includes but is not limited to the following: copying the answers of another student on an examination, copying or restating the work or ideas of another person or persons in any oral or written work (printed or electronic) without citing the appropriate source, and collaborating with someone else in an academic endeavor without acknowledging his or her contribution. Plagiarism can consist of acts of commission-appropriating the words or ideas of another-or omission failing to acknowledge/document/credit the source or creator of words or ideas (see below for a detailed definition of plagiarism). It also includes colluding with someone else in an academic endeavor without acknowledging his or her contribution, using audio or video footage that comes from another source (including work done by another student) without permission and acknowledgement of that source.

C. **Misrepresentation or falsification of data** presented for surveys, experiments, reports, etc., which includes but is not limited to: citing authors that do not exist; citing interviews that never took place, or field work that was not completed.

D. **Theft of an examination**. Stealing or otherwise discovering and/or making known to others the contents of an examination that has not yet been administered.

E. **Unauthorized communication during examinations**. Any unauthorized communication may be considered prima facie evidence of cheating.

F. **Knowingly allowing another student to represent your work as his or her own**. This includes providing a copy of your paper or laboratory report to another student without the explicit permission of the instructor(s).

G. **Forgery, alteration, or knowing misuse of graded examinations, quizzes, grade lists, or official records of documents**, including but not limited to transcripts from any institution, letters of recommendation, degree certificates, examinations, quizzes, or other work after submission.

H. **Theft or destruction of examinations or papers** after submission.

I. **Submitting the same work in more than one course** without the consent of instructors.

J. **Altering or destroying another student's work or records**, altering records of any kind, removing materials from libraries or offices without consent, or in any way interfering with the work of others so as to impede their academic performance.

K. **Violation of the rules governing teamwork**. Unless the instructor of a course otherwise specifically provides instructions to the contrary, the following rules apply to teamwork: 1. No team member shall intentionally restrict or inhibit another team member's access to team meetings, team work-in-progress, or other team activities without the express authorization of the instructor. 2. All team members shall be held responsible for the content of all teamwork submitted for evaluation as if each team member had individually submitted the entire work product of their team as their own work.

L. **Failure to sit in a specifically assigned seat during examinations.**

M. **Conduct in a professional field assignment that violates the policies and regulations of the host school or agency.**

N. **Conduct in violation of public law occurring outside the University that directly affects the academic and professional status of the student, after civil authorities have imposed sanctions.**

O. **Attempting improperly to influence the award of any credit, grade, or honor.**

P. **Intentionally making false statements to the Academic Conduct Committee or intentionally presenting false information to the Committee.**

Q. **Failure to comply with the sanctions imposed under the authority of this code.**

Important Message on Final Exams

Dear Boston University Computer Science Online Student,

As part of our ongoing efforts to maintain the high academic standard of all Boston University programs, including our online MSCIS degree program, the Computer Science Department at Boston University's Metropolitan College requires that each of the online courses includes a proctored final examination.

By requiring proctored finals, we are ensuring the excellence and fairness of our program. The final exam is administered online, and the access will be available at the exam sites.

Specific information regarding final-exam scheduling will be provided approximately two weeks into the course. This early notification is being given so that you will have enough time to plan for where you will take the final exam.

I know that you recognize the value of your Boston University degree and that you will support the efforts of the University to maintain the highest standards in our online degree program.

Thank you very much for your support with this important issue.

Regards,

Professor Lou Chitkushev, Ph.D.

Associate Dean for Academic Affairs

Boston University Metropolitan College

Microsoft Imagine for Academic Institutions

Metropolitan College is a member of Microsoft Imagine for Academic Institutions (formerly DreamSpark), a Microsoft program that supports technical education by providing access to Microsoft software for learning, teaching, and research purposes. Our membership allows faculty and students currently enrolled in MET courses to obtain certain Microsoft products free of charge. All MET students are granted access to download the software for the duration of their study at MET College.

FAQ and basic information are at: http://www.bu.edu/metit/hw-and-sw/msdn-academic-alliance-software-center/.

Who's Who: Roles and Responsibilities

You will meet many BU people in this course and program. Some of these people you will meet online, and some you will communicate with by email and telephone. There are many people behind the scenes, too, including instructional designers, faculty who assist with course preparation, and video and animation specialists.

People in Your Online Course in Addition to Your Fellow Students

Your Facilitator. Our classes are divided into small groups, and each group has its own facilitator. We carefully select and train our facilitators for their expertise in the subject matter and their excellence in teaching. Your facilitator is responsible for stimulating discussions in pedagogically useful areas, for answering your questions, and for grading homework assignments, discussions, term projects, and any manually graded quiz or final-exam questions. If you ask your facilitator a question by email, you should get a response within 24 hours, and usually faster. If you need a question answered urgently, post your question to one of the urgent help topics, where everyone can see it and answer it.

Your Professor. The professor for your course has primary responsibility for the course. If you have any questions that your facilitator doesn't answer quickly and to your satisfaction, then send your professor an email in the course, with a cc to your facilitator so that your facilitator is aware of your question and your professor's response.

Your Senior Faculty and Student Support Administrator, Jennifer Sullivan. Jen is here to ensure you have a positive online experience. You will receive emails and announcements from Jen throughout the semester. Jen represents Boston University's university services and works for the Office of Distance Education. She prepares students for milestones such as course launch, final exams, and course evaluations. She is a resource to both students and faculty. For example, Jen can direct your university questions and concerns to the appropriate party. She also handles general questions regarding Online Campus functionality for students, faculty, and facilitators, but she does not provide tech support. She is enrolled in all classes and can be contacted within the course through Online Campus email as it is running. You can also contact her by external email at jensul@bu.edu or call toll free at 1-888-524-2200.

People Not in Your Online Course

Although you will not normally encounter the following people in your online course, they are central to the program. You may receive emails or phone calls from them, and you should feel free to contact them.

Your Computer Science Department Online Program Coordinator, Peter Mirza. Peter administers the academic aspects of the program, including admissions and registration. You can ask him questions about the program, registration, course offerings, graduation, or any other program-related topic. He can be reached at metcsol@bu.edu or (617) 353-2566.

Your Computer Science Department Program Manager, Kim Richards. Kim is responsible for administering most aspects of the Computer Science Department. You can reach Kim at kimrich@bu.edu or (617) 353-2566.

Andrew Gorlin, Academic Advisor. Reviews requests for transfer credits and waivers. Advises students on which courses to take to meet their career goals .You can reach Andrew at asgorlin@bu.edu, or (617)-353-2566.

Professor Anatoly Temkin, Computer Science Department Chairman. You can reach Professor Temkin at temkin@bu.edu or at 617-353-2566.

Professor Lou T. Chitkushev, Associate Dean for Academic Affairs, Metropolitan College. Dr. Chitkushev is responsible for the academic programs of Metropolitan College. Contact Professor Chitkushev with any issues that you feel have not been addressed adequately. The customary issue-escalation sequence after your course facilitator and course faculty is Professor Temkin, and then Professor Chitkushev.

Professor Tanya Zlateva, Metropolitan College Dean Dr. Zlateva is responsible for the quality of all the academic programs at Boston University Metropolitan College.

Disability Services

In accordance with University policy, every effort will be made to accommodate unique and special needs of students with respect to speech, hearing, vision, or other disabilities. Any student who feels he or she may need an accommodation for a documented disability should contact the Office of Disability Services at (617) 353-3658 or at access@bu.edu for review and approval of accommodation requests.

Netiquette

The Office of Distance Education has produced a netiquette guide to help you understand the potential impact of your communication style.

Before posting to any discussion forum, sending email, or participating in any course or public area, please consider the following:

Ask Yourself…

- How would I say this in a face-to-face classroom or if writing for a newspaper, public blog, or wiki?

- How would I feel if I were the reader?

- How might my comment impact others?

- Am I being respectful?

- Is this the appropriate area or forum to post what I have to say?

Writing

When you are writing, please follow these rules:

- **Stay polite and positive in your communications**. You can and should disagree and participate in discussions with vigor; however, when able, be constructive with your comments.

- **Proofread your comments before you post them.** Remember that your comments are permanent.

- **Pay attention to your tone.** Without the benefit of facial expressions and body language your intended tone or the meaning of the message can be misconstrued.

- **Be thoughtful and remember that classmates' experience levels may vary.** You may want to include background information that is not obvious to all readers.

- **Stay on message.** When adding to existing messages, try to maintain the theme of the comments previously posted. If you want to change the topic, simply start another thread rather than disrupt the current conversation.

- **When appropriate, cite sources.** When referencing the work or opinions of others, make sure to use correct citations.

Reading

When you are reading your peers' communication, consider the following:

- **Respect people's privacy.** Don't assume that information shared with you is public; your peers may not want personal information shared. Please check with them before sharing their information.

- **Be forgiving of other students' and instructors' mistakes.** There are many reasons for typos and misinterpretations. Be gracious and forgive other's mistakes or privately point them out politely.

- **If a comment upsets or offends you, reread it and/or take some time before responding.**

Important Note

Don't hesitate to let your instructor or your faculty and student support administrator know if you feel others are inappropriately commenting in any forum.

All Boston University students are required to follow academic and behavioral conduct codes. Failure to comply with these conduct codes may result in disciplinary action.

Registration Information and Important Dates

View the drop dates for your course.

Withdraw or drop your course.

- If you are dropping down to zero credits for a semester, please contact your college or academic department.
- **Nonparticipation in your online course does not constitute a withdrawal from the class.**
- If you are unable to drop yourself on student link please contact your college or academic department.

Technical Support

Experiencing issues with BU websites or Blackboard?

It may be a system-wide problem. Check the BU Information Services & Technology (IS&T) news page for announcements.

Boston University technical support is available via email (ithelp@bu.edu), the support form, and phone (888-243-4596). Please note that the IT Help Center has multiple locations. All locations can be reached through the previously mentioned methods. For IT Help Center hours of operation please visit their contact page. For other times, you may still submit a support request via email, phone, or the support form, but your question won't receive a response until the following day. If you aren't calling, it is highly recommended that you submit your support request via the technical-support form as this provides the IS&T Help Center with the best information in order to resolve your issue as quickly as possible.

Examples of issues you might want to request support for include the following:

- Problems viewing or listening to sound or video files
- Problems accessing internal messages
- Problems viewing or posting comments
- Problems attaching or uploading files for assignments or discussions
- Problems accessing or submitting an assessment

To ensure the fastest possible response, please fill out the online form using the link below:

IT Help Center Support
888-243-4596 or 617-353-4357 or <u>Web</u>
Check your open tickets using <u>BU's ticketing system</u>.

## Navigating Courses

For best results when navigating courses, it is recommended that you use the Mozilla <u>Firefox</u> browser.

The Table of Contents may contain folders. These folders open and close (+ and − signs) and may conceal some pages. To avoid missing content pages, you are advised to use the next- and previous-page buttons (and icons) in the top-right corner of the learning content.

Please also familiarize yourself with the navigation tools, as shown below; these allow you to show and hide both the Course Menu and the Table of Contents on the left. This will be helpful for freeing up screen space when moving through the weekly lecture materials.

Navigation tools for the Table of Contents are shown in the image below:
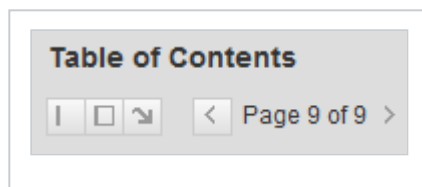
Clicking on the space between the Course Menu and the Table of Contents allows you to show or hide the Course Menu on the left:

Web Resources/Browser Plug-Ins

To view certain media elements in this course, you will need to have several browser plug-in applications installed on your computer. See the Course Resources page in the syllabus of each individual course for other specific software requirements.

- Check your computer's compatibility by reviewing Blackboard's System Requirements
- Check your browser settings with Blackboard's Connection Test
- Download most recent version of Adobe Flash Player
- Download most recent version of Adobe Acrobat Reader

How to Clear Your Browser Cache

The IT Help Center recommends that you periodically clear your browser cache to ensure that you are viewing the most current content, particularly after course or system updates.

This page is also found within the "How to…" section of the online documentation, which contains a list of some of the most common tasks in Blackboard Learn.

Boston University Metropolitan College