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.

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

MET CS 673
Software Engineering

Course Description

This course is an overview of techniques and tools to develop high-quality software. Topics include the software-development life cycle, such as Agile and DevOps; requirements analysis; software design; programming techniques; refactoring; testing; and software-management issues. An overview of secure software-development processes and techniques will also be introduced. This course also features a semester-long group project in which students will design and develop a real-world software system in groups using Agile methodology and various software-engineering (SE) tools, including Unified Modeling Language (UML) tools, project-management tools, programming frameworks, unit- and system-testing tools, integration tools, and version-control tools.

Prerequisites

- At least two programming-intensive courses at level 500 or above, or
- **OR** The instructor's consent

This course is not about programming. However, the programming skill is the prerequisite. You should be familiar with object-oriented (OO) concepts and proficient in at least one high-level programming language before taking this course. It is better to take this course as a capstone course towards the end of your program study.

Technical Notes

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- and previous-page icons in the top-right corner of the learning modules.

This course requires you to access files such as Word documents, PDFs, and/or media files. These files may open in your browser or be downloaded, depending on the settings of your browser.

Learning Outcomes

At the end of the semester, you will be able to do the following:

- Explain and compare major software-process models and activities in the software process
- Explain various architectural patterns and design principles and apply these to design robust, scalable, and maintainable software systems
- Explain methodology and techniques, such as Agile methodology and DevOps, and apply these in a real-world, team-based project to develop a high-quality software system on time
- Identify security risks in the software project and apply various techniques to enhance the software security
- Proficiently use various SE tools including the UML tool, the project management tool, programming tools, testing tools, the version control tool, etc.
- Integrate AI tools into the software development lifecycle, from code generation to testing and deployment
- Communicate effectively with team members and customers
- Clearly present the software project in both the oral and written form
- Adhere to professional standards and practices in software engineering and AI

Course Requirements

- Class participation
- Reading and study
- Labs
- Semester-long project
- Quizzes and Exam

This course features a semester-long, team-based project. Each team should have about four to six students. Every member of the team is expected to contribute a roughly equal share to the project.

Instructor

Yuting Zhang

Assistant Professor, Computer Science Director, Cybersecurity

PhD, Boston University

MS, BS, University of Science and Technology Beijing

Computer Science Department

Metropolitan College

Boston University

1010 Commonwealth Ave.,

3rd floor

Boston, MA 02215

Office Hours: By appointment only

Office Phone: 617-358-5683

Email: danazh@bu.edu

Dr. Zhang's research mainly focuses on resource management in soft real-time systems, virtual machine systems, and internet end-systems, though her interest spreads to all areas of computer systems and networks. Conducted through both theoretic analysis and empirical evaluation, her research has been published in more than a dozen conference proceedings and journals. Zhang served as an assistant professor at Merrimack College, the Wentworth Institute of Technology, Allegheny College, and the University of Science and Technology Beijing. She has taught a variety of courses, including information technology, Java/C++/C programming, operating systems, computer networks, analysis of algorithms, software engineering, programming languages, and a research seminar.

Materials

There is no required textbook for this course.

Reference Books:

SE Textbooks

- Braude, E., & Bernstein, M. E. *Software engineering: Modern approaches* (2nd ed.). Waveland Press, Inc.
- Martin, R. C. *Agile Software Development, Principles, Patterns, and Practices.*
- Bruegge, B., & Dutoit, A. H. *Object-Oriented Software Engineering: Using UML, Patterns and Java*.
- Pfleeger, S. L., & Atlee, J. M. *Software Engineering: Theory and Practice*.
- Pressman, R. S. *Software Engineering: A Practitioner's Approach.*
- Van Vliet, H. *Software Engineering: Principles and Practice*.
- Sommerville, I. *Software Engineering*.
- Sommerville, I. *Engineering Software Products: An Introduction to Modern Software Engineering*.
- Farlay, D. *Modern Software Engineering: Doing What works to Build Better Software Faster.*

Other Essential Books for Software Engineers

- Brooks, F. P., Jr. *The Mythical Man Month*.
- Freeman, E., Freeman, E., Bates, B., & Sierra, K. *Head First Design Patterns*.
- Fowler, M., Beck, K., & Roberts, D. *Refactoring: Improving the Design of Existing Code*.
- McConnell, S. *Code Complete: A Practical Handbook of Software Construction*.
- Martin, Robert C. *Clean Code: A Handbook of Agile Software Craftsmanship.*
- Thomas, D. & Hunt, A. *The Pragmatic Programmer: Your Journey to Mastery.*
- Winters, T., Manshreck, T., & Wright, H. *Software Engineering at Google: Lessons Learned from Programming Over Time.*
- Humble, J. & Farley, D. *Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation.*
- Kim, G., Behr, K., Spafford, G., and Ruen, C. *The Phoenix Project: A Novel about IT, DevOps, and Helping Your Business Win.*
- Forsgren, N., Humble, J., & Kim, G. *Accelerate: The Science of Lean Software and DevOps: Building and Scaling High Performance Organizations.*
- Kim, G., Humble, J., Debois, P., Willis, J., & Forsgren, N. *The DevOps Handbook: How to Create World-Class Agility, Reliability, & Security in Technology Organizations.*
- Farley, D. *Continuous Delivery Pipelines: How to Build Better Software Faster.*

Other Reading Materials

- SourceMaking
- Microsoft Security Development Lifecycle
- OWASP
    - SAMM project
    - TOP 10
    - Testing Guide

- Developer Guide

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:

met_ode_library_14_sp1_00_intro video cannot be displayed here. Videos cannot be played from Printable Lectures. Please view media in the module.

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 Collections to access eBooks and eJournals directly.

If you have questions about library resources, go to Ask a Librarian: Help & FAQs to email the library or use the live-chat feature.

To locate course eReserves, go to 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 services by Tutor.com are available to BU online students for the duration of their eligible online course. Tutor.com is a web-based service that provides an online writing lab and access to on-demand and scheduled tutoring sessions for writing, math, business, coding languages, and other subjects. Students can submit a question to a tutor, submit a paper for feedback about writing and grammar, or schedule a live session with a tutor.

You can log in directly to Tutor.com from Blackboard Online Campus by clicking the link in the left-hand navigation menu within your online course. All activity in the Tutor.com classroom is recorded for learner review and quality control. Transcripts will be available afterward in My Account under My Locker in your Tutor.com account.

Please Note

Tutor.com services may be used only for current Boston University online courses and career services. Use of this service for purposes other than current coursework or career services may result in deactivation of your Tutor.com account.

Study Guide

Besides the book chapters, additional reading material will be assigned for each topic. Reading before and after class is required and essential to succeed in this course. Students are responsible for **ALL** materials covered in the lectures and lab sessions, including any topics not in the textbooks.

Both the lectures and the project use iterative approaches. Each lecture includes two iterations. The project includes initial planning and then three mini-project iterations.

This course starts on a **Tuesday**. The modules in this course run from **Tuesday to Monday**.

Module 1 Study Guide and Deliverables

(May 6 – May 12)

Module Topics:	• Topic 1: Introduction to Software Engineering • Topic 2: Software Processes • Topic 3: Agile Methodology • Topic 4: Software Quality Assurance, Configuration Management, and Risk Management
Readings:	• Online lecture notes • Braude, Parts I, II, and III (or related chapters in other textbooks)
Discussions:	• Introduce Yourself on the Class Discussion Board due **Wednesday, May 7 at 11:59 PM ET** • Weekly Group Meeting
Assignments:	• Pre-Class Survey due **Wednesday, May 7 at 11:59 PM ET** • Project Iteration 0 (Proposal) due **Thursday, May 15 at 6:00 AM ET** • Lab 1 due **Wednesday, May 14 at 6:00 AM ET**
Live Classrooms:	• **Wednesday, May 7 from 7:00-9:00 PM ET** • **Sunday, May 11 from 7:00-8:00 PM ET**

Module 2 Study Guide and Deliverables

(May 13 – May 19)

Module Topics:	• Topic 1: Requirement Analysis and Management Using User Stories • Topic 2: From Requirement to Design – UML Class Diagrams and State-Transition Diagrams.
Readings:	• Online lecture notes • Braude, Part IV (or related chapters in other textbooks)
Discussions:	• Weekly Group Meeting
Assignments:	• Lab 2 due **Tuesday, May 20 at 6:00 AM ET**
Assessments:	• Quiz 1 due **Tuesday, May 20 at 6:00 AM ET**
Live Classrooms:	• **Tuesday, May 13 from 7:00-9:00 PM ET** • **Thursday, May 15 from 7:00-8:00 PM ET**

Module 3 Study Guide and Deliverables

(May 20 – May 26)

Module Topics:
- Topic 1: High-Level Design – Software Architecture
- Topic 2: Design Principles and Design Patterns

Readings:
- Online lecture notes
- Braude, Part V (or related chapters in other textbooks)

Discussions:
- Weekly Group Meeting

Assignments:
- Project Iteration 1 due **Tuesday, May 27 at 6:00 AM ET**
- Project Midterm Self and Peer Review due **Thursday, May 29 at 6:00 AM ET**

Live Classrooms:
- **Tuesday, May 20 from 7:00-9:00 PM ET**
- **Thursday, May 22 from 7:00-8:00 PM ET**

Module 4 Study Guide and Deliverables

(May 27 – June 2)

Module Topics:
- Topic 1: Implementation
- Topic 2: Testing

Readings:
- Online lecture notes
- Braude, Parts VI and VII (or related chapters in other textbooks)

Discussions:
- Weekly Group Meeting

Assignments:
- Lab 3 due **Tuesday, June 3 at 6:00 AM ET**

Assessments:
- Quiz 2 due **Tuesday, June 3 at 6:00 AM ET**

Live Classrooms:
- **Tuesday, May 27 from 7:00-9:00 PM ET**
- **Thursday, May 29 from 7:00-8:00 PM ET**

Module 5 Study Guide and Deliverables

(June 3 – June 9)

Module Topics:	• Topic 1: More UML Tools in Requirement Analysis and Design • Topic 2: Testing Techniques
Readings:	• Online lecture notes • Braude, Parts V and VII (or related chapters in other textbooks)
Discussions:	• Weekly Group Meeting
Assignments:	• Project Iteration 2 due **Tuesday, June 10 at 6:00 AM ET**
Live Classrooms:	• **Tuesday, June 3 from 7:00-9:00 PM ET** • **Thursday, June 5 from 7:00-8:00 PM ET**

Module 6 Study Guide and Deliverables

(June 10 – June 16)

Module Topics:	• Topic 1: Secure Software-Development Processes • Topic 2: Software Security Practices
Readings:	• Online lecture notes
Discussions:	• Weekly Group Meeting
Assignments:	• Project Iteration 3 due **Tuesday, June 17 at 6:00 AM ET** • Project Final Self and Peer Review due **Thursday, June 19 at 6:00 AM ET**
Assessments:	• Quiz 3 due **Tuesday, June 17 at 6:00 AM ET**
Course Evaluation:	Please complete the course evaluation once you receive an email or Blackboard notification indicating the evaluation is open. Your feedback is important to MET, as it helps us make improvements to the program and the course for future students.
Live Classroom:	• **Tuesday, June 10 from 7:00-9:00 PM ET** • **Thursday, June 12 from 7:00-8:00 PM ET**

Final Exam Details

The Final Exam is a proctored exam available from **Wednesday, June 18 at 6:00 AM ET to Saturday, June 21 at 11:59 PM ET**. The exam is only accessible during the Final Exam period. You can access it from the “Assessments” section of the course.

The Computer Science Department requires that all final exams be administered using an online proctoring service that you will access via your course in Blackboard. Detailed instructions regarding your proctored exam will be forthcoming from the Assessment Administrator. You will be responsible for scheduling your own appointment within the defined exam window.

Final Exam Duration: **3 hours**

This is an **closed-book/closed-notes exam**. You can bring 2 double-sided pages of cheat sheet.

You can take the exam only once. The exam features **multiple-answer and essay questions**.

Grading Information

Grading Policy

The grade that a student receives in this class will be based on class participation, labs, quizzes, the project, and the final exam. The grade breakdown is as below. All percentages are approximate, and the instructor reserves the right to make necessary changes.

- 5% class participation
- 9% on Lab Assignments (3 small labs)
- 6% on Quizzes (3)
- 50% on Semester-Long Group Project
- 30% on the Final Exam

Letter-grade/numerical-grade conversion is shown below:

A	(95-100)
A-	(90-94)
B+	(85-89)
B	(80-84)
B-	(79-77)
C+	(74-76)

C	(70-73)
C-	(65-70)
D	(60-65)
F	(0 – 59)

Assignment Submission

All lab reports should be submitted (attached) directly on Blackboard. The project assignments are mostly done on GitHub and Google Drive. Students will work collaboratively on Google Drive for the project documents and commit project code on Github. At each iteration release, the group leader, the configuration leader, or some designated member will commit all required documents on GitHub, together with the source code, to create a release. After it is done, the group leader should submit a brief summary and the release link on Blackboard. Only one submission is required per group.

Project Assignments

The project assignments are mostly done through GitHub and Google Drive.

There are two types of project assignments:

1. **Individual assignments**—Each student should submit his/her own assignment through Google Drive and Blackboard.
    - **Weekly report**—Fill in a row on your own sheet each week in the group weekly report on Google Docs.
    - **Midterm and final self- and peer review**—Fill in the iteration-review survey form on Google Forms.
2. **Group assignments**—Each group only needs to submit one copy of the whole group's work on GitHub and Blackboard. Students will work on the group documents collaboratively on Google Docs. At each iteration release, the group leader, the configuration leader, or some designated member will archive the documents on GitHub, together with the source code, to create a release. Your GitHub repository should have a readme file, a document subfolder to contain all documents such as meeting minutes, progress reports, iteration presentations, SPPP, SDD, STD, etc, and a code subfolder to contain all code. A final software demo video should also be added at the end of the semester.

Late-Assignment Policy

Each assignment has a deadline. For all individual assignments, late assignments submitted within three days after the deadline will be penalized. **No assignments will be accepted more than three days after the deadline**.

All project deadlines are firm. A deadline miss means a zero for the grade of that phase.

It is the students' responsibility to keep secure backups of all assignments.

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.

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

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 Lead 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 BU Virtual. 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 (617) 358-1978.

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, Michelle Younger. Michelle administers the academic aspects of the program, including admissions and registration. You can ask her questions about the program, registration, course offerings, graduation, or any other program-related topic. She can be reached at metcsol@bu.edu or (617) 353-2566.

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

Professor Guanglan Zhang, Computer Science Department Chairman. You can reach Professor Zhang at guanglan@bu.edu or at 617-358-5688.

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 Zhang, 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 and Access Services

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

Once a student receives their accommodation letter, they must send it to their instructor and/or facilitator each semester. They must also send a copy to their Faculty & Student Support Administrator, who may need to update the course settings to ensure accommodations are in place. Accommodations cannot be implemented if the student does not send their letter.

Netiquette

BU Virtual has produced a netiquette guide to help you understand the potential impact of your communication style.

Before posting to any discussion forum, sending an 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 point them out privately and 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 MyBU Student Portal, please contact your college or academic department.
- Online courses will open to students in Blackboard on the first day of the term.

- Online courses close to students three weeks after the last day of the term. Please plan to download and save any assignments or material you'd like to keep by that date.

Technical Support

Help Desk

Boston University IT Help Desk can be reached via email (ithelp@bu.edu), phone (617-353-4357) or by filling out the support form on their website. For IT Help Desk hours of operation, visit the contact page. If you are contacting IT outside of business hours, you will receive a response the following day. Visit the BU Information Services & Technology (IS&T) news page for announcements and system-wide alerts.

Technology Requirements and Resources

To successfully view all content in your course, it is important that your computer setup meets the necessary minimum technical requirements. Certain courses with specific functionality or educational tools may require additional technical requirements, these details can be found on the Course Resources or Materials page in the Syllabus.

System Requirements

- Access to reliable, high-speed internet: Check your internet connection speeds
- Learning Management System (Blackboard): System Requirements
- Synchronous live classroom sessions (Zoom): System requirements for Windows, macOS, and Linux
- Courses with proctored exams (ProctorU): System requirements for Windows, macOS
- Two-factor authentication service for BU applications: Duo Security

Downloads

- Recommended web browsers: Mozilla Firefox or Google Chrome
- Synchronous live classroom sessions (Zoom): Zoom download center
- Courses with proctored exams (ProctorU): Desktop or laptop computer with Guardian browser
- Two-factor authentication service for BU applications (Duo Security): optional Duo Mobile download for iOS or Duo Mobile download for Android

Recommended Hardware

- Desktop or laptop computer recommended for best experience, some course functionality including proctored exams are not compatible with phones or tablets
- Headset with built-in microphone for high quality audio during live classroom sessions
- Webcam (required for proctored exams)
- Working computer speakers (required for proctored exams)

Clearing Your Browser Cache

It is recommended that users periodically clear their browser cache to ensure they are viewing the most current course content. Completing this step often resolves login issues and problems viewing course materials.

Proctored Exams

Courses with proctored exams will have a ProctorU link in the left-hand course navigation. This link will not appear until scheduling opens. The ODE Assessment Administrator will notify you when it is time to schedule your exam. Details on ProctorU's technical requirements and how to schedule your exam are in the Proctored Exam Information module on the course homepage. The Assessment Administrator can be reached at pexams@bu.edu. ProctorU support is available 24/7 via phone (855-772-8678), email support@proctoru.com), or 'live chat' when logged in to the ProctorU dashboard.

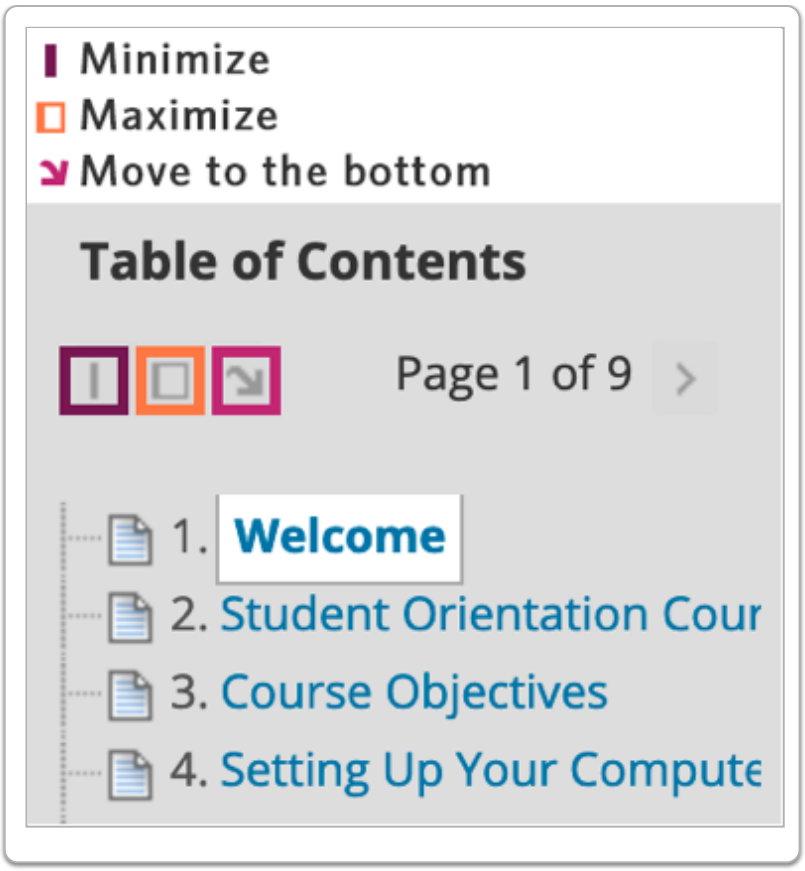
Navigating Courses

> While navigating through your courses it's important to note that all hyperlinks will open in a new browser window.

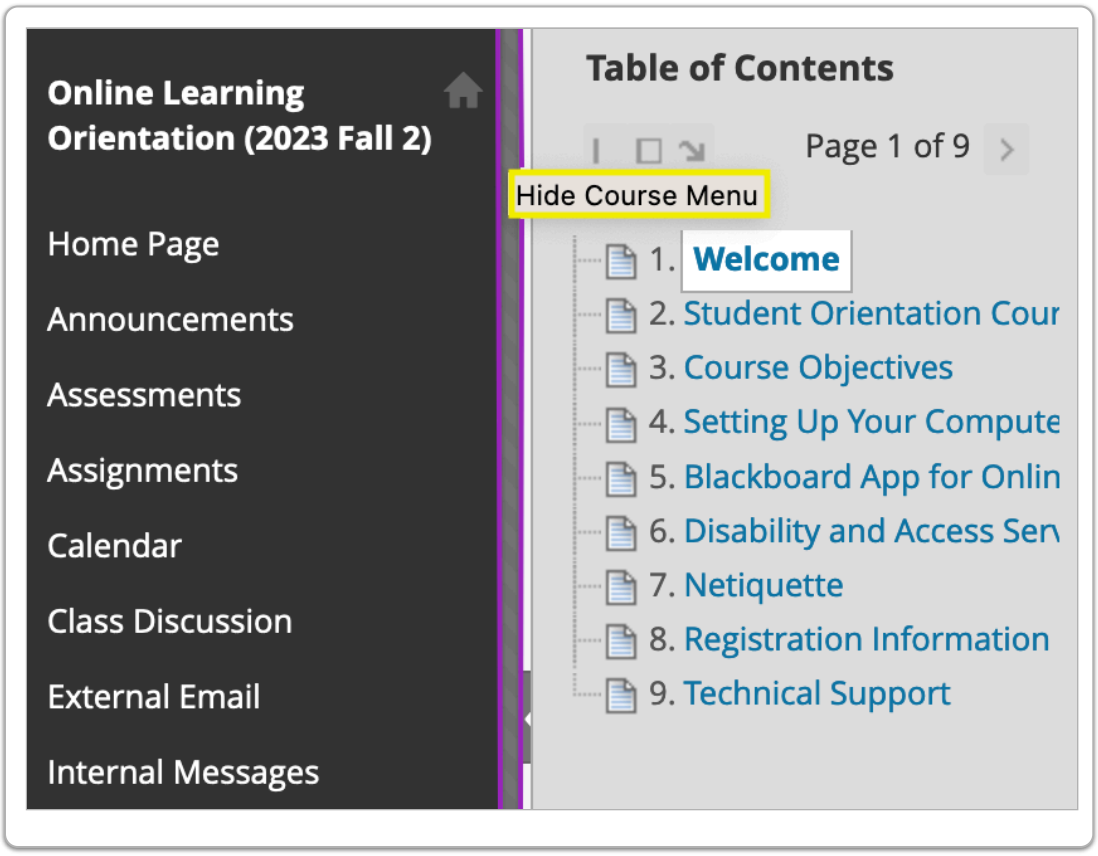
The Blackboard navigation tools—shown in the images below—allow you to show and hide both the Course Menu and the Table of Contents which can free up space when moving through weekly lecture material.

The Table of Contents may contain folders that 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.

Navigation tools for the Table of Contents are shown in the image below:



Clicking the space between the Course Menu and the Table of Contents allows you to show or hide the Course Menu on the left:



Boston University Metropolitan College