

# Syllabus

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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.

## Description

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The pages of this module are available as a single compiled page to make printing or saving to PDF easier. To access this single page, please go to "Printable Lectures" in the left-hand navigation bar.

### **MET CS 521**

#### **Information Structures with Python**

This course presents an effective approach to learn Python. With extensive use of graphical illustrations, it will build understanding of Python and its capabilities by learning through many simple examples and analogies. The class will involve active student participation, discussions, and programming exercises. This approach will help build a strong foundation in Python programming that can be used effectively in real-job situations and future courses.

#### **Prerequisites**

Familiarity with at least one programming language. Understanding of key language constructs and methods. Ability to formulate quantitative information symbolically and numerically.

#### **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/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 as files, depending on the settings of your browser.

# Learning Objectives

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By successfully completing this course students will be able to:

- Use Python programming language constructs to implement a variety of analytical and computational methods (searching and sorting)
- Explain tradeoffs between different Python methods and data structures in computation
- Apply acquired skills in diverse settings by completing a course project of their choosing
- Present both symbolic and visual results their course project
- Articulate the advantages and limitations of using Python

To accomplish this goal, course materials are divided into a set of mini-modules

corresponding to particular topic(s). These mini-modules will typically include the following:

- Course material with many examples
- Self-test questions
- Sample programming problems including typical Python job interview questions (collected from various sources in the internet)

# Instructional Team

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## Instructor: Guanglan Zhang, PhD



Computer Science Department  
Metropolitan College  
Boston University

email: [guanglan@bu.edu](mailto:guanglan@bu.edu)

Dr. [Guanglan Zhang](#) holds Masters degrees in Biomedical Engineering (M.Eng., Nanyang Technological University, Singapore) and Automatic Control Theory and Application (M.Eng., Northwestern Polytechnic University, China). She received a Ph.D. (Nanyang Technological University, Singapore) for doctoral work in bioinformatics. She is an Associate Professor in Computer Science at Boston University Metropolitan College, the Faculty Coordinator for Health Informatics Program, and an adjunct member of Dana-Farber Cancer Institute and Harvard Medical School. She also leads research activities in the MET Health Informatics Laboratory.

Dr. Zhang has worked in the biomedical informatics field since 1998. The most important aspects of her work include development and implementation of biomedical databases, computational simulations of laboratory experiments, development of diagnostic methods for tissue typing, and computational support for vaccine development. Computational tools that she developed are used in the study of immunology, vaccinology,

infectious disease, and cancer. She has authored more than 50 peer-reviewed scientific journal publications and developed dozens of biomedical specialist databases and computational systems.

## Original Course Developer: Eugene Pinsky, Ph.D.



Computer Science Department  
Metropolitan College  
Boston University  
1010 Commonwealth Avenue

Eugene Pinsky received his B.A. in Mathematics from Harvard University and his Ph.D. in Computer Science from Columbia University. He has taught extensively both in academia and industry. His research interests are in performance analysis and computational algorithms in data science and machine learning with emphasis on computational finance and programmatic advertising.

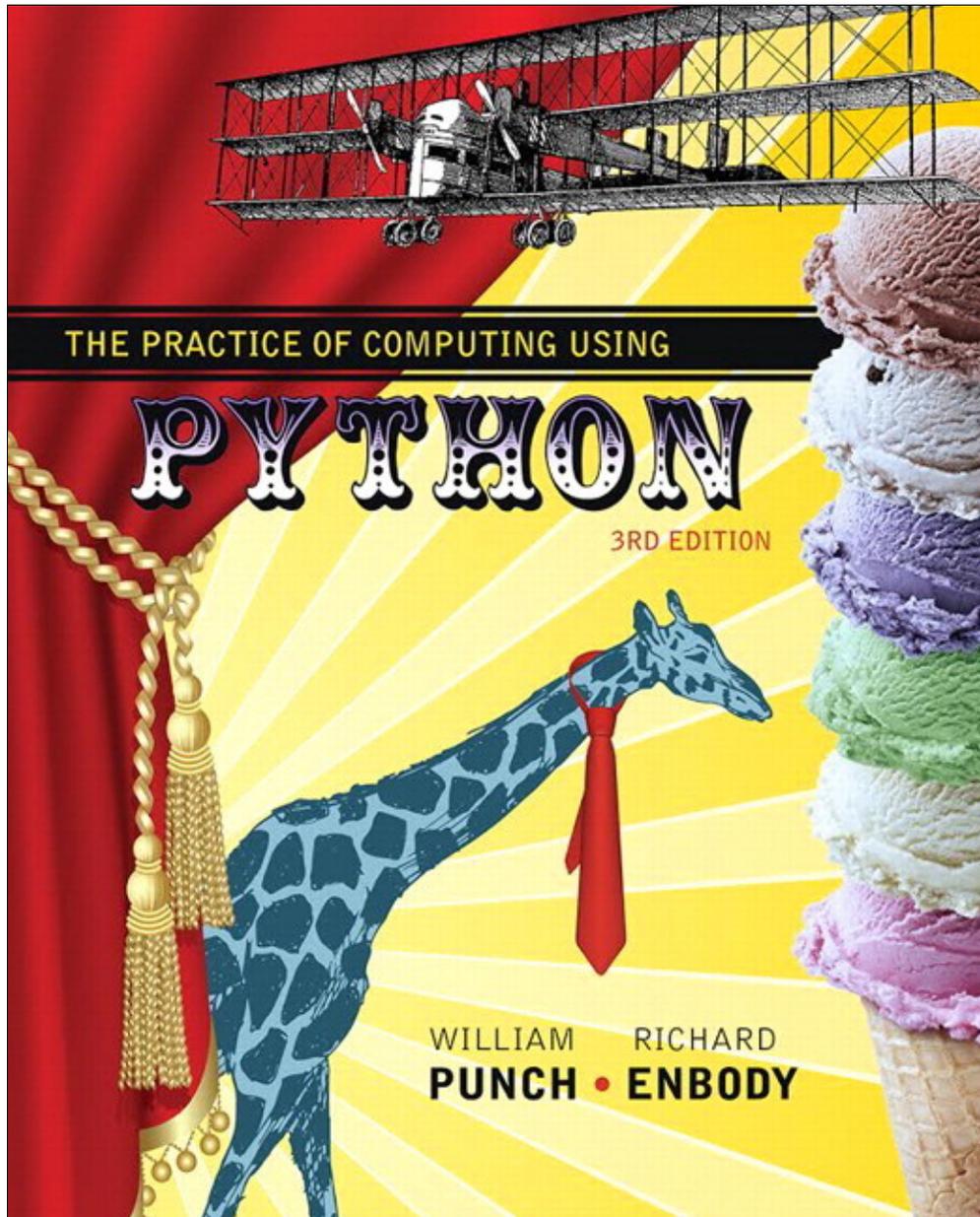
## Materials

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## Required Book

Contemporary programming languages like Python enjoy rich online documentation. Indeed, they are built on the premise that programmers are continually in contact with such documentation, and are not expected to memorize any but a small fraction of it. The textbook for the course is below. There will be readings from the text weekly.

The text will be used in conjunction with the online course modules and online Python documentation.



**Punch, W. and Enbody, R. (2016).**  
*The Practice of Computing Using Python (3<sup>rd</sup> ed.).*  
Pearson.

ISBN-13:  
978-0-13-437976-0

This book can be purchased from [Barnes and Noble at Boston University](#). An e-book is available at [Vitalsource.com](#). An e-book is available through the BU bookstore.

**Note:** You do not need to purchase the textbook "with access," also referred to as the "lab" portion of this text. It will not be used in this course.

## Running Python Programs

We will be using Spyder IDE (Integrated Development Environment) and Anaconda Python Distribution. We have these installed in our virtual lab. MET Virtual Labs (VLAB) provide students with all required software. Most of the examples presented in class will be run in this environment. You can familiarize yourself with the virtual labs with

the information from our website: <http://www.bu.edu/metit/services/#vlab-target>

## Additional Resources:

There are many online resources available. This is a partial list:

1. <http://www.pythontutor.com/visualize.html> - this website is very useful and allows to run simple Python programs and visualize the execution. Many of the illustrations in the course notes were generated using this website.
2. <https://docs.python.org/2/tutorial> - an official Python tutorial
3. <https://www.tutorialspoint.com/python> - a detailed tutorial with many simple examples
4. <https://www.learnpython.org> - free, interactive tutorial
5. <https://www.python.org/community/sigs/current/edu-sig/> - contains links to learning resources, including two free books

## 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.

## Grading Information

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Please check the **Study Guide** in the syllabus for Live Classroom dates and specific due dates for assignments and assessments.

# Teaching Approach and Goals

I am a strong believer in learning by using many illustrated examples. These examples will help us build the fundamental understanding of Python and how to use it to solve real problems. Many exercises presented in the course will help you develop skills that are needed to use Python effectively in your workplace and more advanced courses.

## Homework, Grading, and Exams

Overall Grading Percentages	
Quizzes	15%
Homework Assignments	35%
Project	20%
Final Exam	30%

### Quizzes

There are six 30-minute quizzes (one for each Module). All exams are multiple choice. Quizzes are closed book and will consist of typical Python questions that one can expect at a job interview.

### Homework Assignments

This is a programming class and it is essential that students have practice. Most homework assignments will consist of programming problems from the textbook.

### Project

The project is open ended and the topics can be chosen by students. In this project, students will frame and solve problems using quantitative capabilities of Python. Students will present their projects in the final week of the course.

### Final Exam

There will be a proctored Final Exam in this course using an online proctoring service. Detailed instructions regarding your proctored exam will be forthcoming from the Assessment Administrator. You will be responsible for scheduling your own appointment.

The exam will be closed book and will take two hours. The exam will consist of typical Python questions that one can expect at a job interview.

## Homework Assignment Evaluation Criteria

The evaluation criteria for assignments are shown below--otherwise, stated with the assignment.

<b>Letter Grade</b>	<b>Approximate Percentage Grade Range</b>	<b>When To Give</b>
A	95-100	The student's submission is excellent and without defect. The submission demonstrates mastery of the material.
A-	90-94.9	The student's submission is excellent with some minor defects. The submission demonstrates a solid grasp of the material.
B+	85-89.9	The student's submission is good with a few defects. The submission demonstrates a solid grasp of most but not all of the material.
B	80-84.9	The student's submission is above average with some defects. The submission demonstrates a solid grasp of some aspects of the material.
B-	75-79.9	The student's submission is approaching average. The submission demonstrates a grasp and understanding of some aspects of the material.
C+	70-74.9	The student's submission is average and has some moderate defects. The submission demonstrates a minimal grasp and understanding of the material.
C	65-69.9	The student's submission is average and has some major defects. The submission demonstrates a basic

		understanding of the material but nothing more.
C-	60-64.9	The student's submission is below average and has some major defects. The submission demonstrates a barebones understanding of the material but nothing more.
D	50-59.9	The student's submission is poor. Sections may be missing from the submission. The submission does not demonstrate an understanding of the material at even a basic level.
F	0-49.9	The student's submission is unacceptable. Sections may be missing from the submission. The submission does not demonstrate an understanding of the material in any fashion.

## Study Guide

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

The following material is collected here for your convenience. The study guides can also be accessed at the beginning of each weekly lecture.

### Module 1 Study Guide and Deliverables

Theme:	Introduction to Computing with Python
Readings:	<ul style="list-style-type: none"> <li>• Chapter 1 (sections 1.1–1.5), Chapter 9 (section 9.6), and Appendix A</li> <li>• Module Lecture Notes</li> </ul>
Topics:	Introduction to Computing, Program Structure, Running Python, Input/Output, Variable Scopes and Modules
Assignments:	Assignment 1 due on Tuesday, January 21 at 6:00 pm ET
Assessments:	Quiz 1: <ul style="list-style-type: none"> <li>• Available Friday, January 17 at 6:00 am ET</li> <li>• Due on Tuesday, January 21 at 6:00 pm ET</li> </ul>
Live Classroom:	<ul style="list-style-type: none"> <li>• Wednesday, January 15 from 7:00-8:30 pm ET</li> </ul>

- Thursday, January 16 from 7:00-8:30 pm ET
- Facilitator Session: Saturday, January 18 at 10:00 am ET

## Module 2 Study Guide and Deliverables

Theme:	Basic Building Blocks for Python Programs
Readings:	<ul style="list-style-type: none"><li>• Chapter 1 (sections 1.6–1.9), Chapter 2 (sections 2.2.1–2.2.7), and Chapter 16 (section 16.1)</li><li>• Module Lecture Notes</li></ul>
Topics:	Data Types, Hashing, Mutability, Python Ranges, Copying Objects
Assignments:	Assignment 2 due on Tuesday, January 28 at 6:00 pm ET
Assessments:	Quiz 2: <ul style="list-style-type: none"><li>• Available Friday, January 24 at 6:00 am ET</li><li>• Due on Tuesday, January 28 at 6:00 pm ET</li></ul>
Live Classroom:	<ul style="list-style-type: none"><li>• Wednesday, January 22 from 7:00-8:30 pm ET</li><li>• Thursday, January 23 from 7:00-8:30 pm ET</li><li>• Facilitator Session: Saturday, January 25 at 10:00 am ET</li></ul>

## Module 3 Study Guide and Deliverables

Theme:	Building Python Projects
Readings:	<ul style="list-style-type: none"><li>• Chapter 2 (sections 2.2.8–2.2.14), Chapter 4, Chapter 6 (sections 6.1–6.5), Chapter 14 (sections 14.1–14.3)</li><li>• Module Lecture Notes</li></ul>
Topics:	Strings, Collections, Control Flow, Iterations, Files, Lists
Assignments:	<ul style="list-style-type: none"><li>• Assignment 3 due on Tuesday, February 4 at 6:00 pm ET</li><li>• Final Project Topic due on Wednesday, February 5 at 6:00 pm ET</li></ul>
Assessments:	Quiz 3: <ul style="list-style-type: none"><li>• Available Friday, January 31 at 6:00 am ET</li><li>• Due on Tuesday, February 4 at 6:00 pm ET</li></ul>

- Live Classroom:
- Wednesday, January 29 from 7:00-8:30 pm ET
  - Thursday, January 30 from 7:00-8:30 pm ET
  - Facilitator Session: Saturday, February 1 at 10:00 am ET

## Module 4 Study Guide and Deliverables

- Theme: Collections in Detail
- Readings:
- Chapter 7 and Chapter 9
  - Module Lecture Notes
- Topics: Sets, Tuples, Dictionaries, Stacks, Queues, Singly Linked Lists, Doubly Linked Lists, Sorting, Searching
- Assignments: Assignment 4 due on Tuesday, February 11 at 6:00 pm ET
- Assessments: Quiz 4:
- Available Friday, February 7 at 6:00 am ET
  - Due on Tuesday, February 11 at 6:00 pm ET
- Live Classroom:
- Wednesday, February 5 from 7:00-8:30 pm ET
  - Thursday, February 6 from 7:00-8:30 pm ET
  - Facilitator Session: Saturday, February 8 at 10:00 am ET

## Module 5 Study Guide and Deliverables

- Theme: Functions in Detail
- Readings:
- Chapter 6 (section 6.6), Chapter 14 (section 14.4), Chapter 5, Chapter 8, Chapter 15, and Chapter 16 (section 16.2)
  - Module Lecture Notes
- Topics: Exceptions, Introduction to Functions, Parameter Passing, Generators, Recursive Functions, Functional Programming
- Assignments: Assignment 5 due on Tuesday, February 18 at 6:00 pm ET
- Assessments: Quiz 5:
- Available Friday, February 14 at 6:00 am ET

- Due on Tuesday, February 18 at 6:00 pm ET
- Live Classroom:
- Wednesday, February 12 from 7:00-8:30 pm ET
  - Thursday, February 13 from 7:00-8:30 pm ET
  - Facilitator Session: Saturday, February 15 at 10:00 am ET

## Module 6 Study Guide and Deliverables

- Theme: Classes in Detail
- Readings:
- Chapters 11, 12, and 13
  - Module Lecture Notes
- Topics: Introduction to Classes, Assignment and Copy, Static vs. Instance Variables, Data Encapsulation, Overloading, Inheritance and Polymorphism, Multiple Inheritance and Abstract Classes
- Assignments: Assignment 6 due on Tuesday, February 25 at 6:00 pm ET
- Assessments: Quiz 6:
- Available Friday, February 21 at 6:00 am ET
  - Due on Tuesday, February 25 at 6:00 pm ET
- Live Classroom:
- Wednesday, February 19 from 7:00-8:30 pm ET
  - Thursday, February 20 from 7:00-8:30 pm ET
  - Facilitator Session: Saturday, February 22 at 10:00 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.

## Module 7 Study Guide and Deliverables

- Theme: Final exam and project presentations
- Final Project and Video: Term Project due on Saturday, March 1 at 11:59 pm ET

## Final Exam Details

The Final Exam is a proctored exam available from **Wednesday, February 26 at 6:00 AM ET to Saturday, March 1 at 11:59 PM ET**. 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. Additional information 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.

The Final Exam will be **closed book/closed notes** and is accessible only during the final exam period. You can access it from the Assessments section of the course. Your proctor will enter the password to start the exam.

Final Exam duration: **two hours**

## Academic Conduct Policy

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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

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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

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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](mailto: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](mailto: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](mailto:kelleycr@bu.edu) or (617) 353-2566.

**Professor Guanglan Zhang, Computer Science Department Chairman.** You can reach Professor Zhang at [guanglan@bu.edu](mailto: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

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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](mailto: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

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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

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## Help Desk

Boston University IT Help Desk can be reached via email ([ithelp@bu.edu](mailto: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 (Examity): [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 (Examity): Desktop or laptop computer with [Google Chrome](#) or [Microsoft Edge](#)
- 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

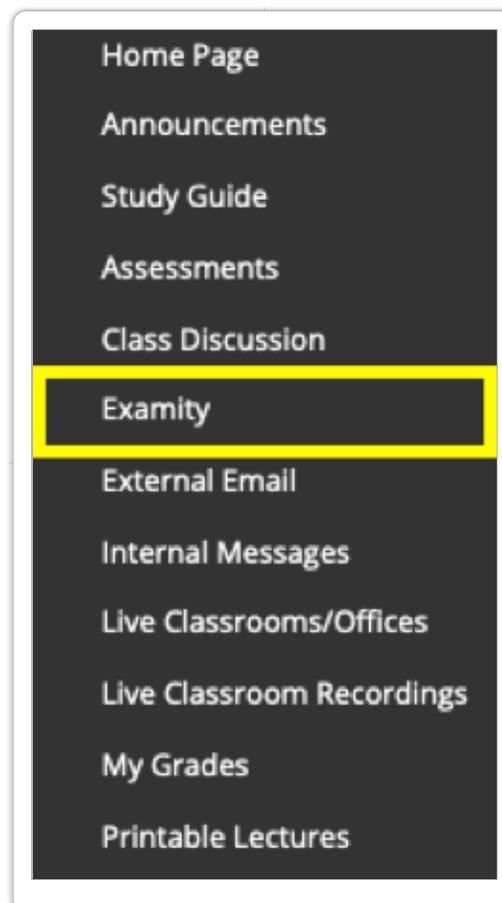
- Headset with built-in microphone for high quality audio during live classroom sessions
- Webcam (required for proctored exams)
- Working computer speakers (required for proctored exams)

## 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 an Examity link in the left-hand course navigation. This link will not appear until scheduling opens. The BU Virtual Assessment Administrator will notify you when it is time to schedule your exam. Details on Examity'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](mailto:pexams@bu.edu). Examity support is available 24/7 via phone (855-392-6489), email ([support@examity.com](mailto:support@examity.com)), or 'live chat' when logged in to the Examity dashboard.



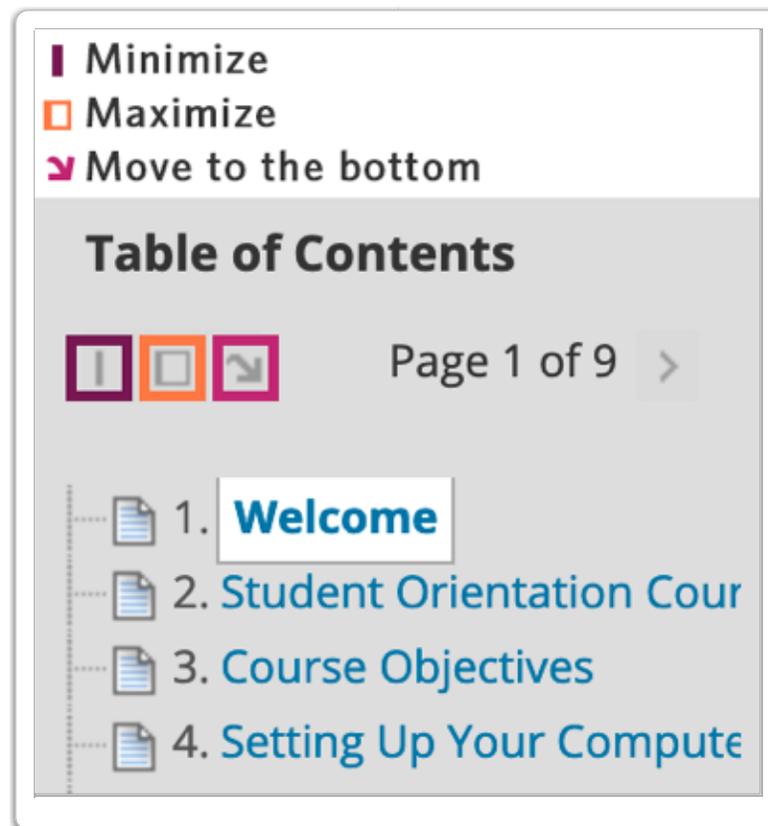
## Navigating Courses

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:

The screenshot displays a Blackboard course interface. On the left is a dark navigation menu with the following items: DE Student Orientation (2020 Spring 2) with a home icon, Home Page, Announcements, Assessments, Assignments, Calendar, Class Discussion, External Email, and Internal Messages. On the right is a 'Table of Contents' section, labeled 'Page 1 of 9'. Below the title is a 'Hide Course Menu' button. A list of nine items follows, each with a document icon: 1. Welcome (highlighted with a white box), 2. Student Orientation Cou, 3. Course Objectives, 4. Setting Up Your Comput, 5. Blackboard App for Onli, 6. Disability Services, 7. Netiquette, 8. Registration Informatio, and 9. Technical Support.

**Boston University Metropolitan College**