

Syllabus

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Course Description

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MET CS 625

Business Data Communication

Computer networks dominate today's information technologies and are essential for a business to compete in the global marketplace. This course is intended to provide you with knowledge and understanding of basic concepts of data communication in business environments as well as of computer networks and protocols. The material will be presented in the context of the Internet reference model, with particular focus on the network, transport, and application layers. Frequently used protocols are presented, which illustrate concepts and provide insight into practical networks. Examples include widely used network protocols, such as the TCP/IP suite. Those who have completed the course will have the basic knowledge of computer networks and data communications.

Course Overview

This course begins with a brief history of communications, information systems, and the Internet in order to help the student understand the evolution of different network models and current standards. Application architectures, and their relevance to specific network-based applications—such as the Web, email, ftp, telnet, and IM—are presented. The Physical Layer is presented in the form of basic data communications concepts over both wired and wireless transmission media. Data Link layer responsibilities including media access, error control, data link protocols, and transmission efficiency are covered. The basic functions of the Network and

Transport layers are explained in context of design issues, addressing, routing, and internetworking. The TCP/IP suite of protocols is used for an in-depth example. LANs are covered in detail including components, Ethernet, design, and performance. Wireless networks including Wi-Fi, WiMAX, Bluetooth, and best practices in WLAN design are then presented. Networks are covered in depth in order to address the needs of an enterprise backbone, including components, architectures, virtual LANs, technologies, and best practices in design. Moving from the local area networking environment, metropolitan and wide area networking technologies are covered. The course then concludes with significant coverage of network security, network design, and network management.

Course Objectives

The course will enable you to:

- Understand the role of network layering, the Internet Layer Model, and current standards
- Understand the major application architectures and applications that follow them
- Be familiar with the different types of network circuits and media, as well as understand how analog/digital data is transmitted with analog/digital signals
- Understand how communication is done reliably
- Understand how messages are moved from end to end via routers
- Understand LAN and WLAN technologies and be able to design a LAN and a WLAN
- Understand enterprise LAN technologies, including backbones, ATM, gigabit Ethernet
- Understand circuit switched, dedicated circuit, and packet switched services
- Understand the overall design of the Internet and access technologies
- Understand network security, design, and management issues

Learning Outcomes

By successfully completing this course you will be able to:

- Use and understand networking terminology
- Be able to design a small network
- Choose a networking technology suitable to solve a business problem
- Successfully communicate with networking professionals
- Apply basic network and security management techniques
- Understand and evaluate new networking technologies
- Be able to advance your knowledge of networking by taking additional courses or self study

Instructor

Warren Mansur

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Office Hours and Questions: You will have ample opportunity for questions at our many Live Classrooms. I also welcome your questions via Online Campus and standard email.



Hello,

My name is Warren Mansur, and I am your instructor. I welcome the opportunity to teach and interact with all of you. I am passionate about teaching, and look forward to interacting with you in the many ways supported by this course.

I received my master's degree in computer science from Boston University, and have been heavily involved both with teaching and course development in Boston University's online MSCIS program since 2005. I have been involved with this course specifically for many years. I have worked as an enterprise software architect and developer on many distributed, networked systems for 15 years with several organizations, including Lockheed Martin, Hewlett Packard, and the New York State Court System.

The best way to reach me outside of our Live Classroom sessions is to email me at my BU email address. I normally pick up my course and regular email many times per day.

Initial Course Developer

Professor Lou Chitkushev, Ph.D.

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Professor Chitkushev is the Chairman of the Computer Science Department at Boston University's Metropolitan College, director of Information Security and Biometrics Laboratories, and the Coordinator of the Graduate program in Telecommunications.

He is co-founder and Associate Director of the Boston University Center for Reliable Information Systems and Cyber Security (RISCS), which was established to promote and coordinate research on reliable and secure computation and information assurance education by developing ideas and tools to protect critical computational infrastructure and producing a growing number of highly educated research professionals with expertise in information reliability and security.

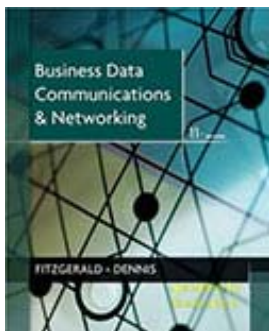
Professor Chitkushev was part of the academic team that played a crucial role in the initiatives leading to Boston University's designation as a National Center of Academic Excellence in Information Assurance Education and Research by the National Security Agency and U.S. Department of Homeland Security.

Throughout his career, Dr. Chitkushev has made scientific contributions and has lectured in the areas of data communications, advanced Internet technologies, medical informatics, and network security. He has served on a number of scientific committees and international telecom standard bodies, and has been a review panelist for the National Science Foundation.

Professor Chitkushev holds a Ph.D. in Biomedical Engineering (Bioinformatics) from Boston University, an M.S. in Biomedical Engineering from Medical College of Virginia, and an M.S. and B.S in Electronics and Telecommunications from University of Belgrade, Yugoslavia. He has extensive international industrial and academic consulting experience in the areas of telecommunications, data assurance, and biomedical informatics, with a number of leading IT corporations and government agencies.

Course Materials and Resources

Required Course Materials



Fitzgerald, J., & Dennis, A. (2011). *Business data communications and networking* (11th ed.). Hoboken, NJ: John Wiley & Sons.

This textbook can be purchased from [Barnes and Noble at Boston University](http://bu.bncollege.com/). (<http://bu.bncollege.com/>). This course does *not* require you to have access to any premium content or access cards from the textbook. We rely only on the standard textbook content itself, so it is possible for you to obtain a used copy or an electronic copy if you are interested.

Boston University Library Link

As Boston University students you have full access to the BU Library—even if you do not live in Boston. 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> (<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 include:

Go to <http://www.bu.edu/library/research/collections> (<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> (<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> (<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.

Study Guide

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

- Readings:** Online lecture material plus the following chapters from the textbook: Chapter 1 - Introduction to Networking; Chapter 2 - Application Layer; Chapter 3 - Physical Layer
- Discussions:** There are no graded peer reviews this week
- Assignments:** Concepts Assignment 1, Lab 1, and Term Project Iteration 1 due Tuesday, November 5 at 6:00 AM ET
- Assessments:** Quiz 1 due Tuesday, November 5 at 6:00 AM ET

Module 2 Study Guide and Deliverables

- Readings:** Online lecture material plus the following chapters from the textbook: Chapter 4 - Data Link Layer; Chapter 5 - Network and Transport Layers
- Discussions:** Module 2 Peer Reviews end Tuesday, November 12 at 6:00 AM ET
- Assignments:** Concepts Assignment 2, Lab 2, and Term Project Iteration 2 due Tuesday, November 12 at 6:00 AM ET
- Assessments:** Quiz 2 due Tuesday, November 12 at 6:00 AM ET

Module 3 Study Guide and Deliverables

- Readings:** Online lecture material plus the following chapters from the textbook: Chapter 6 - Wired and Wireless Local Area Networks
- Discussions:** Module 3 Peer Reviews end Tuesday, November 19 at 6:00 AM ET
- Assignments:** Concepts Assignment 3, Lab 3, and Term Project Iteration 3 due Tuesday, November 19 at 6:00 AM ET
- Assessments:** Quiz 3 due Tuesday, November 19 at 6:00 AM ET

Module 4 Study Guide and Deliverables

- Readings:** Online lecture material plus the following chapters from the textbook: Chapter 7 - Backbone Networks; Chapter 8 - Wide Area Networks

Discussions:	Module 4 Peer Reviews end Tuesday, November 26 at 6:00 AM ET
Assignments:	Concepts Assignment 4, Lab 4, and Term Project Iteration 4 due Tuesday, November 26 at 6:00 AM ET
Assessments:	Quiz 4 due Tuesday, November 26 at 6:00 AM ET

Module 5 Study Guide and Deliverables

Readings:	Online lecture material plus the following chapters from the textbook: Chapter 9 - The Internet; Chapter 10 - Network Security
Discussions:	Module 5 Peer Reviews end Tuesday, December 3 at 6:00 AM ET
Assignments:	Concepts Assignment 5, Lab 5, and Term Project Iteration 5 due Tuesday, December 3 at 6:00 AM ET
Assessments:	Quiz 5 due Tuesday, December 3 at 6:00 AM ET

Module 6 Study Guide and Deliverables

Readings:	Online lecture material plus the following chapters from the textbook: Chapter 11 - Network Design; Chapter 12 - Network Management
Discussions:	Module 6 Peer Reviews end Tuesday, December 10 at 6:00 AM ET
Assignments:	There are no concepts assignments or labs this week
Assessments:	Quiz 6 due Tuesday, December 10 at 6:00 AM ET
Term Project:	Term Project due Tuesday, December 10 at 6:00 AM ET

Final Exam Details

The Computer Science department requires that all final exams in the online program be proctored. Consequently, the Final Exam in this course will be proctored and available from **December 11 at 8:00 AM ET to December 14 at 11:59 PM ET**.

The final exam is a three-hour, closed-book comprehensive exam covering the material from the entire course. The exam will only be accessible during the final exam period. Students can access it from either the Assessments section of the course or from the Final Exam module on the home page. The exam is proctored, and the proctor will need to enter the password to start the exam.

During the final exam, students are required to work independently without using any additional notes or material. Final is a closed-book exam so accessing online material, lecture notes, emails, discussion boards, chat features or any other online material during the exam is not permitted, and some features

of the online course may be disabled.

Please note that student activity during the final exam is monitored and recorded in log files. Accessing any online or other material during the final exam is a major violation of the course policy and can result in serious academic disciplinary actions.

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

Course 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. Each of the six main modules includes assigned textbook readings and online lectures in text, graphic, and video formats. You have an opportunity each week to participate in supplemental, synchronous Live Classroom sessions where you can interact with me and our lead facilitator; these live sessions are recorded if you are unable to attend the session. The first five modules include graded concepts assignments, labs, and quizzes, and the sixth module homework includes a graded quiz. There is an interesting term project on a topic which you will define yourself. During each week of the course, you will implement an aspect of the term project based upon the data communications technology that you are studying that week.

Grade Weighting

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.

Deliverable	Weight
Concepts Assignments	15%
Labs	15%
Quizzes	20%

Term Project	20%
Final Exam	30%

Concepts Assignments

In each of the first five weekly modules you will complete concepts assignments that help you solidify the concepts you have read in the textbook and online lectures. If you are stuck, and just can't complete part of an assignment, send what you have completed to your facilitator via Online Campus email, asking for help. Your facilitator can then provide you with guidance in the areas where you are stuck, and return the partial assignment to you for further work.

Labs

In each of the first five weekly modules you will complete hands-on labs that help you gain important technical skills in data communications and networking.

Incremental Term Project Iterations

In each of the first five weekly modules you will complete an incremental iteration of your term project. These iterations are designed to help guide you in completing your term project, as well as give you a chance to receive feedback from your facilitator and your peers.

Peer Reviews

There are five peer review discussions in modules 2 through 6, where you will peer review your peers' term project iterations, as well as receive feedback for your own. Completing these peer reviews within the guidelines is a factor in your overall term project grade.

Quizzes

There is a review quiz in each of the first six modules. These review quizzes are primarily to help you prepare you for the module quizzes. When you finish a review quiz you will see the questions, your answer, the correct answers and tutorial material for each question, as well as grading rubrics for paragraph questions and references in the text. The review quizzes do not count in your grade. You can take the review quizzes at any time, as many times as you want.

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 quizzes 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 permission, but the scores on late quizzes do not count on your grade.

The Final Exam

There is a proctored final exam in the course. You will have three 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. Online Campus records the time for your submission of each question, so we can grade you fairly in the rare event that there are technical or other difficulties. Your final exam will be proctored, either at a testing center, or using remote proctoring. Your final exam will be offered in the last week of the course.

The Term Project

For the term project, you will select a topic of your choice and both research that topic as well as use a networking tool to demonstrate your findings. Additional details are in the Term Project inbox in the Assignments area of the course. Please note that failure to complete the Term Project will result in an F for the course.

Grading Structure

Your assignments, 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 ranges below should be used only as a guideline, because the process and criteria for determining course letter grades is more complex than strictly computing the weighted average grade and mapping it to a letter grade.

Letter Grade	Approximate percentage grade range	Grade Points
A	94–100	4.0
A–	91–93.9	3.7
B+	88–90.9	3.3
B	84–87.9	3.0
B–	81–83.9	2.7
C+	78–80.9	2.3
C	74–77.9	2.0
C–	71–73.9	1.7
D	61–70.9	1.0
F	0–60.9	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 \(http://www.bu.edu/met/for-students/met-policies-procedures-resources/grading/\)](http://www.bu.edu/met/for-students/met-policies-procedures-resources/grading/).

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, 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.

Concepts Assignment Grading Rubric

All assignment submissions are evaluated on the quality of the original content, and on how well the content is expressed.

Your facilitator will grade your assignment submissions with the grading rubric below. When mapping the letter grade to a corresponding number grade, your facilitator will use the following letter-to-number mappings:

A+	A	A–	B+	B	B–	C+	C	C–	D	F
100	96	92	89	86	82	79	76	72	66	0

To avoid subjectivity and to maintain consistency across facilitator groups, facilitators will use only the letter to number mappings given above, and will not attempt to further distinguish the number grade. For example, if you receive an A for both criteria, then your assignment grade will be a 96, and facilitators will not attempt to distinguish between a 97, 96, or 95. If you receive an A– for both criteria, your assignment grade will be a 92, and facilitators will not attempt to distinguish between a 93, 92, or 91.

	Grade	Qualities Demonstrated by the Assignment Submission
	A+	The content demonstrates exceptional understanding of all relevant subject matter and its inter-relationships. All major relevant issues are thoroughly covered, and all content is very focused and on-topic. There is no known way to improve the content, and there are absolutely no technical or coverage errors present.
	A	The content demonstrates exceptional understanding of all relevant subject matter and its inter-relationships. All major relevant issues are thoroughly covered, and all content is very focused and on-topic. At most one insignificant technical or coverage error may be present
	A–	The content demonstrates deep understanding of all relevant subject matter and its inter-relationships. All major relevant issues are covered, and all content is on-topic.
		The content demonstrates understanding of all relevant subject matter

Content (70%) Measures the quality of the content in the assignment	B+	and its inter-relationships. Almost all major relevant issues are covered, and the content is at least reasonably on-topic.
	B	The content demonstrates understanding of most relevant subject matter and its inter-relationships. Almost all major relevant issues are covered, and all content is at least reasonably on-topic.
	B-	The content demonstrates moderate understanding of much relevant subject matter and its inter-relationships. There is reasonable coverage of major relevant issues, and the content is at least reasonably on-topic.
	C+	The content demonstrates some understanding of relevant subject matter and its inter-relationships. Some major relevant issues are covered, and at least some content is on-topic.
	C	The content demonstrates understanding of a small portion of the relevant subject matter and its inter-relationships. Some major relevant issues are covered, and at least a small portion of the content is on-topic.
	C-	The content demonstrates little understanding of and insight into the relevant subject matter and its inter-relationships. A small portion of the major relevant issues are covered. The focus of the content may be off topic or on insubstantial or secondary topics
	D	The content demonstrates almost no understanding of or insight into the relevant subject matter and its inter-relationships. Almost none of the major relevant issues are covered, and the content may be almost entirely off-topic.
	F	The content demonstrates no understanding of or insight into the relevant subject matter and its inter-relationships. No major relevant issues are covered, and the content is entirely off-topic.
	A+	The presentation of all ideas and designs is exceptionally clear and persuasive; the entire submission is exceptionally organized. There is no known way to improve the clarity or organization of the submission.
		The presentation of all ideas and designs is exceptionally clear and persuasive; the entire submission is exceptionally organized. There may

A+	A	A-	B+	B	B-	C+	C	C-	D	F
100	96	92	89	86	82	79	76	72	66	0

To avoid subjectivity and to maintain consistency across facilitator groups, facilitators will use only the letter to number mappings given above, and will not attempt to further distinguish the number grade. For example, if you receive an A, your lab grade will be a 96, and facilitators will not attempt to distinguish between a 97, 96, or 95. If you receive an A-, your lab grade will be a 92, and facilitators will not attempt to distinguish between a 93, 92, or 91.

The table below summarizes the qualities the lab submission must demonstrate to be assigned the corresponding grade.

	Letter Grade	Qualities Demonstrated by the Lab Submission
	A+	The answers, and answer justifications where required, are entirely complete and correct for all steps. The methodologies used to derive the answers are entirely applicable to the given problems, and are implemented correctly, for all steps. There are absolutely no technical or other errors present.
	A	One insignificant technical or other error is present, but otherwise the answers, and answer justifications where required, are entirely complete and correct for all steps. Excluding the insignificant error, the methodologies used to derive the answers are entirely applicable to the given problems, and are implemented correctly, for all steps.
	A-	One or two technical or other errors are present, but otherwise the answers, and answer justifications where required, are entirely complete and correct for all steps. Excluding the one or two errors, the methodologies used to derive the answers are entirely applicable to the given problems, and are implemented correctly, for all steps.
	B+	The answers, and answer justifications where required, are complete and correct for most steps. Likewise, the

Answers and Methodology

Measures the correctness and completeness of the answers and methodology used for lab steps

	methodologies used to derive the answers are applicable to the given problems, and are implemented correctly, for most steps.
B	The answers are correct or almost correct for most steps. Some answer justifications may be missing or incorrect, but most are present and correct where required. The methodologies used to derive the answers are applicable and implemented correctly for most steps.
B-	The answers, and answer justifications where required, are complete and correct for about $\frac{3}{4}$ of the steps. Likewise, the methodologies used to derive the answers are applicable to the given problems, and are implemented correctly, for about $\frac{3}{4}$ of the steps.
C+	The answers are correct or almost correct for about $\frac{3}{4}$ of the steps. Some answer justifications may be missing or incorrect. The methodologies used to derive the answers are applicable to the given problems, and are implemented correctly, for about $\frac{3}{4}$ of the steps.
C	The answers for about half of the steps are either missing or incorrect. Likewise, the methodologies used for about half of the steps are either inapplicable to the given problem, or are implemented incorrectly. Some answer justifications are missing or incorrect where required.
C-	The answers for most of the steps are either missing or incorrect. Likewise, the methodologies used for most of the steps are either inapplicable to the given problem, or are implemented incorrectly. Some answer justifications are missing or incorrect where required.
D	The answers for almost all of the steps are either missing or incorrect. Likewise, the methodologies used for almost all of the steps are either inapplicable to the given problem, or are implemented incorrectly. Some answer justifications are missing or incorrect where required.

	F	The answers for virtually all of the steps are either missing or incorrect. Likewise, the methodologies used for virtually all of the steps are either inapplicable to the given problem, or are implemented incorrectly. Some or all answer justifications are missing or incorrect where required.
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Quiz Instructions

You will have access to the quiz at the beginning of the module. However you should not access the quiz until you have completed all learning activities for the module and are prepared to meet the objectives for that module. The quiz closes the second morning of the following module at 6:00 AM ET. If you miss the deadline contact your facilitator immediately.

Quiz Details

- You can access the quiz details from the assessments menu or the “Module Activities” section in the table of contents for the module
- You will have **75 minutes** to complete the quiz. If you should exit the quiz and re-enter at a later time the clock is still running during the time you had left the quiz.
- Each quiz has 20 choose-multiple and multiple-choice questions.
- There is a 21st question (worth 0 points) where you may optionally provide comments. These comments will be reviewed by your facilitator and considered when he/she grades the quiz. This is an opportunity for you to let us know if you feel that a certain question or answer had some ambiguity, or you want to clarify your choice for a certain question.
- Not every student will have the same identical quiz questions. The quiz is generated for each student from a large question pool.
- The order of all questions and answers is randomized.
- The points for each question are shown.
- The quiz questions will display one at a time on your screen.
- You may skip over questions and revisit them in any order.

Also note:

- You can take each quiz only once.
- You will be able to continue to save answers to questions after the time has expired, but any late

answers will be time stamped and marked as late. This will allow us to grade your quiz fairly in the event that technical difficulties occur while you take your quiz.

- Click only the radio button/check box to choose an answer. Clicking in white space around the question choice can sometimes select that choice.

How to Handle Technical Difficulties

If you experience technical issues with your quiz, sometimes you will be able to continue simply by connecting to Blackboard using a different web browser, and then continuing the quiz. This is because your web browser may be in a problematic state. You can use one of Internet Explorer, Firefox, Google Chrome, Safari, or Opera. This is an easy workaround to try that will resolve many technical quiz issues.

If using a different browser does not resolve your issue, as would be the case with an internet connectivity problem, please complete the quiz as soon as you regain access to it, giving yourself only 75 minutes of total working time. You would do this by subtracting out any lost time due to the technical issue from the quiz timer. Though the quiz timer still runs during technical issues, going over 75 minutes will not prevent you from completing the quiz. After you complete your quiz, please email your facilitator immediately explaining the issue, and we will verify your story with the logs provided within Blackboard, which show us exactly which question was accessed and the time spent on each question. Stories that cannot be corroborated with the Blackboard logs will not be accepted.

Saving Answers

- To answer a multiple choice question, select the appropriate choice from the list below the question.
- When you have completed your response, click “Save Answer” at the top of the question.
- As you proceed through the exam, you can go back and edit previous responses that you saved.
- A timer is displayed above the questions tracking the remaining time available.
- You will see question number buttons above questions. You will need to click on “Question Completion Status” to see the question numbers. You can use these buttons to navigate from question to question at any time.
- When you have completed all answers, go to the last question of the exam and click the “Save and Submit” button.

Other Questions

If you have any questions about the quiz please feel free to contact your facilitator.

Technical Support

Assistance with course-related technical problems is provided by the IS&T Help Center. To ensure the fastest possible response, please fill out the online form using the link below.

IT Help Center Support	
Email	ithelp@bu.edu (mailto:ithelp@bu.edu) Please use "BB Learn Question" in the subject line
Web	http://www.bu.edu/tech/web/course-sites/blackboard-learn/ (http://www.bu.edu/tech/web/course-sites/blackboard-learn/)
Phone	(888) 243-4596

Academic Conduct Policy

For the full text of the academic conduct code, please go to <http://www.bu.edu/met/for-students/met-policies-procedures-resources/academic-conduct-code/> (<http://www.bu.edu/met/for-students/met-policies-procedures-resources/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 place where you will take 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

MSDN Academic Alliance Software Center

MET College is a member of the MSDN Academic Alliance, which allows faculty, graduate and undergraduate students currently enrolled in MET courses to obtain certain Microsoft products free of charge.

You can obtain many types of Microsoft software free of charge from the Microsoft Developer Network Academic Alliance (MSDNAA) Program. By the first day of class your instructor will submit your BU email address to Microsoft to enroll you in the program for the current semester. You will receive an email from the MSDNAA E-Academy License Management System (ELMS) from the address: elms_support@e-academy.com (mailto:elms_support@e-academy.com).

Some spam filters may direct this email to a junk email folder, so you may want to check your junk email folder or add the address above to your contacts or other white list. The email will provide you with a username and password, and direct you to the MSDNAA site.

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

If you do not receive your email by the end of the first week, first check your junk email folder and then please follow the instructions at http://www.bu.edu/metit/hw-and-sw/msdn-academic-alliance-software-center
(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 Student Services Coordinator, Andrew Hinkell. Andrew is here to ensure you have a positive online experience. You will receive emails and announcements from him throughout the semester. Andrew represents Boston University's university services and works for the Office of Distance Education. He prepares students for milestones such as course launch, final exams, and course evaluations. He is a resource to both students and faculty. For example, he can direct your university questions and concerns to the appropriate party. He also handles general questions regarding Online Campus functionality for students, faculty, and facilitators, but he does not provide tech support. He is enrolled in all classes and can be contacted within the course through Online Campus email as it is running. You can also contact him by external email at ahinkell@bu.edu (<mailto:ahinkell@bu.edu>) or call (617) 358-4569 or (855) 261-5255.

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, Alexa Muhs. Alexa administers the academic aspects of the program, including admissions and registration. You can ask Alexa questions about the program, registration, course offerings, graduation, or any other program-related topic. Alexa can be reached at amuhs@bu.edu (<mailto:amuhs@bu.edu>) or (617) 353-2565.

Your Computer Science Department Program Administrator, Camille Kardoose. Camille is responsible for administering most aspects of the Computer Science Department, and she can help you with most matters. You can reach Camille at cgakardoo@bu.edu (<mailto:cgakardoo@bu.edu>) or (617) 353-2566.

Professor Jae Young Lee, Program Advisor. Dr. Lee reviews requests for transfer credits and waivers and advises students on which courses to take to meet their career goals. Dr. Lee can be reached at

[jaeylee@bu.edu \(mailto:jaeylee@bu.edu\)](mailto:jaeylee@bu.edu) or (617) 358-5165.

Professor Robert Schudy, Director of the MSCIS Online Program. Dr. Schudy is responsible for the MSCIS online program. Feel free to contact Dr. Schudy at [rschudy@bu.edu \(mailto:rschudy@bu.edu\)](mailto:rschudy@bu.edu) or (617) 358-0009.

Professor Anatoly Temkin, Computer Science Department Chairman. Dr. Temkin makes final decisions on petitions for transfer credits for courses taken at other institutions. You can reach Professor Temkin at [temkin@bu.edu \(mailto:temkin@bu.edu\)](mailto:temkin@bu.edu) or at (617) 358-2566.

Professor Lou T. Chitkushev, Associate Dean for Academic Affairs, Metropolitan College. Dr. Chitkushev is responsible 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 Schudy, then Professor Temkin, and then Professor Chitkushev.

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

Disability Services

Boston University makes every effort to accommodate the unique needs of its students. In keeping with university policy, students are expected to contact the Office of Disability Services (ODS) ([www.bu.edu/disability/ \(http://www.bu.edu/disability/\)](http://www.bu.edu/disability/)) each time they register for a course to request accommodations for that course. ODS then provides a letter to the Office of Distance Education which is in turn shared with the respective instructor and facilitator for the upcoming class.

Any student who feels he or she may need an accommodation for a documented disability should contact the Office for Disability Services at (617) 353-3658 or at [access@bu.edu \(mailto:access@bu.edu\)](mailto: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:

Before WRITING or READING a post, 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?**

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.

When you are READING your peers' communication, consider:

- **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 others' mistakes or privately point them out politely.
- **If a comment upsets or offends you, re-read it and/or take some time before responding.**

Important Note: Don't hesitate to let your instructor or student services coordinator 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

Go to http://www.bu.edu/online/online_course_schedule/important_dates/ (http://www.bu.edu/online/online_course_schedule/important_dates/) to view the drop dates for your course.

Go to <http://www.bu.edu/studentlink> (<http://www.bu.edu/studentlink>) to withdraw or drop your course.

- If you are dropping down to zero credits for a semester please contact your college or academic department.
- **Non-participation in your online course does not constitute a withdrawal from the class.**

*The Registration Fee is non-refundable

Technical Support

Assistance with Online Campus-related technical problems is provided by the IT Help Center. To ensure the fastest possible response, please fill out the online form using the link below.

IT Help Center Support	
Web	http://www.bu.edu/help/tech/learn (http://www.bu.edu/help/tech/learn/)
Phone	888-243-4596 or local 617-353-4357

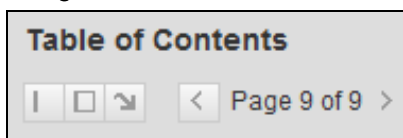
Important Information

For best results when navigating this course, it is recommended that you use the Mozilla Firefox 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/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:



Boston University technical support via email (ithelp@bu.edu (<mailto:ithelp@bu.edu>)), the support form (<http://www.bu.edu/help/tech/learn> (<http://www.bu.edu/help/tech/learn/>)), and phone (888-243-4596) is available from 8 AM to Midnight Eastern Time. 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 at <http://www.bu.edu/help/tech/learn> (<http://www.bu.edu/help/tech/learn/>) 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:

- 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

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](http://www.bu.edu/tech/web/course-sites/blackboard-learn/) (<http://www.bu.edu/tech/web/course-sites/blackboard-learn/>)
- Check your browser settings with Blackboard's [Connection Test](http://www.bu.edu/tech/web/course-sites/blackboard-learn/start/connection-test/) (<http://www.bu.edu/tech/web/course-sites/blackboard-learn/start/connection-test/>)
- Download Most Recent Version of [Adobe Flash Player](http://get.adobe.com/flashplayer/) (<http://get.adobe.com/flashplayer/>)
- Download Most Recent Version of [Adobe Acrobat Reader](http://get.adobe.com/reader/) (<http://get.adobe.com/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 will guide you through clearing your cache, with instructions tailored to specific operating systems and browsers:

<http://www.bu.edu/tech/web/course-sites/blackboard-learn/how-to/clear-your-browser-cache/>
(<http://www.bu.edu/tech/web/course-sites/blackboard-learn/how-to/clear-your-browser-cache/>).

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: <http://www.bu.edu/tech/web/course-sites/blackboard-learn/how-to/> (<http://www.bu.edu/tech/web/course-sites/blackboard-learn/how-to/>).

Boston University Metropolitan College