Syllabus

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

Description and Objectives

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

MET CS 782

IT Strategy and Management

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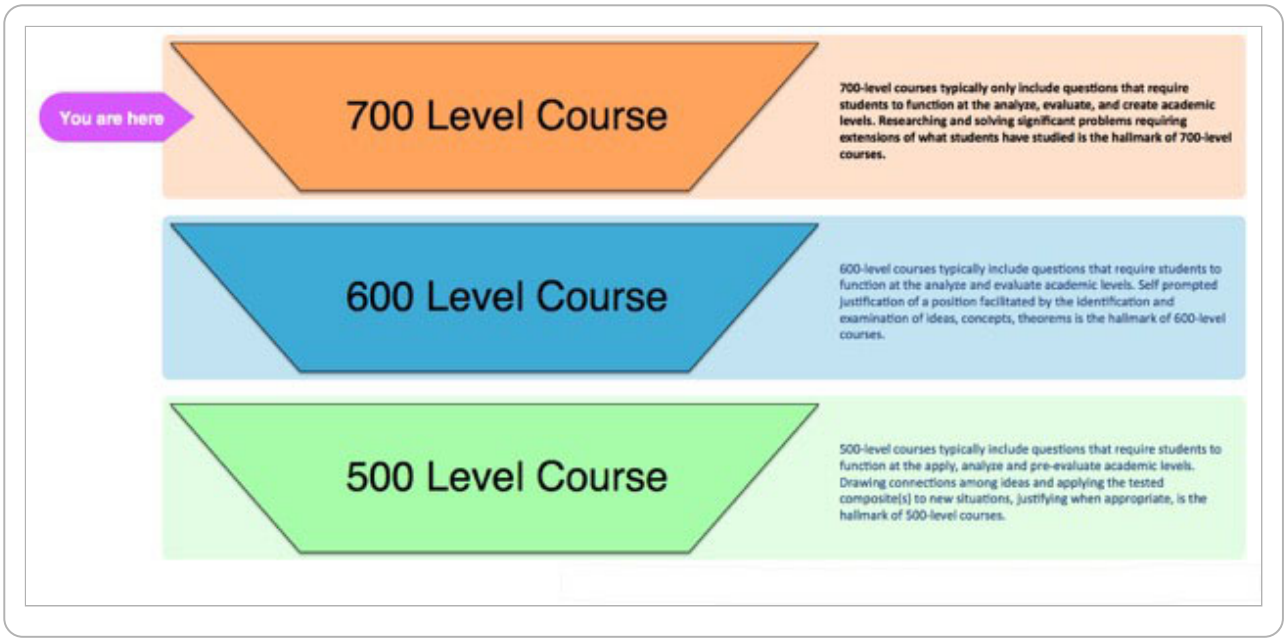
This course provides an overview of information systems technology and management in today's organizations. We will study IT infrastructure, architecture and applications used in enterprise information systems-both within organizations, and in interaction with customers, suppliers, partners, and other. The course discusses the operational, competitive and strategic value of information technology, and how its management and governance contributes to the realization of that value.

Setting Course Expectations at the 700 Level

This is a 700-level course. A major portion of this course is to help prepare you or help to hone your skillset regarding understanding technology, business and system usage.

Being able to express an understanding of and knowledge into the technological and business landscape of today is extremely important. Being able to express a position in writing or through presentation, make assertions, and perform fundamental research which provides validity to your position/assertion is critical in our world today. The figure below helps to describe the expectations of a course at the 700 level.



The course is deliberately very broad and covers much material. Today in business you are often overloaded with data and it's extremely important for you to be able to sift through this data and use the data to create information. It's then critical for you to be able to take this information and create/express a story, strategy, solve problems, etc.

The course will present you with this data and information. The assignments you are presented with will be very similar to what you might expect at work, meaning, the assignments are scenario based, presenting you with a complex problem which you need to resolve using the data and information that is provided to you in the lecture materials. The assignments are deliberately broad and abstract, providing you with the ability to have multiple solutions. We will give you the general direction to you, it's up to you to fill in the details!

What the teaching staff are looking for is how you show cognitive reasoning, understanding of the material and logical application of the material to the situations you will be presented with. We will also be looking for how you justify your application of your position or assertions you make in a creative and thoughtful way.

Learning Objectives

Through online readings, assignments, online discussions, and chats with the instructor, students will gain understanding of the following.

- Critically **analyzing** business situations and problems and understanding the role that information technology can play in solving them.
- **Evaluating** the competitive and operational impacts of adopting new information technologies.
- **Managing** IT, present and future.

Technical Note

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

Instructor

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M. Adam Arakelian is currently a Director of Engineering in EMC in their VMAX Organization. He has been with Boston University as a member of their part-time faculty for almost 10 years. Adam has help develop and evolve the course into what it is today. He has more than 15 years of industry experience and has been part of the design and implementation of many different types of information systems, including transaction-based inventory management systems, customer-relationship management systems, decision support and expert systems. He has also driven engineering teams to deliver hundred million product releases, owned and sold his own intellectual property to major organizations and has led large teams to success.

He holds a master's degree from Boston University in Computer Information Systems with a concentration in security. He has deep knowledge of system architecture and design, designing secure systems, database technology, and computer information system security. He has taught this course several times, along with database management and system analysis and design.

In the past, he has been the CTO and President of a small start-up organization; has and has worked and/or contracted for many start-ups taking them public as well as other such organizations as Avid Technology, the Boston District Attorney's Office, and CMGi.

Course Development

This course was originally developed by Professor Ellis Cohen. Dr. Cohen has been teaching Information Systems Technology, Management & Strategy at Boston University's Metropolitan College, both online and in the classroom,

since 2004. Dr. Cohen is also the director of OpenLine Consulting, www.openlineconsult.com, a Boston-based training and consulting company focused on IT strategy and on relational database design. He has been the technology and project leader for a wide variety of research and advanced technology projects, and has been the CTO of two internet start-up companies. He has a Ph.D. in computer science from Carnegie-Mellon University.

The course has been extensively updated since by Professors Adam Arakelian and Eric Braude. Information about Dr. Braude can be found on his BU homepage, at http://www.bu.edu/csmet/braude/.

M. Adam Arakelian is currently a Director of Engineering in EMC in their VMAX Organization. He has been with Boston University as a member of their part-time faculty for almost 10 years. Adam has help develop and evolve the course into what it is today. He has more than 15 years of industry experience and has been part of the design and implementation of many different types of information systems, including transaction-based inventory management systems, customer-relationship management systems, decision support and expert systems. He has also driven engineering teams to deliver hundred million product releases, owned and sold his own intellectual property to major organizations and has led large teams to success.
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In the past, he has been the CTO and President of a small start-up organization; has and has worked and/or contracted for many start-ups taking them public as well as other such organizations as Avid Technology, the Boston District Attorney's Office, and CMGi.

The course has also had several contributions over the years from the excellent facilitating and teaching staff at BU. Facilitators who have contributed to the course over the years have been Mark Massengill, Rich O'Connell, Andrea Wilson, Dawson Williams and Behdad Shashossini.

Course Précis

Businesses no longer view IT solely in terms of how it can be used to make the business operate more effectively, but also on how it can help them succeed in solving business problems, exploiting business opportunities, and evolving the business. So in understanding how to manage information systems, we first need to understand *business strategy*, and a significant part of the course addresses how business strategy and information technology have become inextricably linked.

The course focuses on the *role and management of information technology in businesses*. But most of the ideas and lessons carry over to other kinds of organizations, including educational, religious, charitable and governmental organizations. However, the role that IT plays in competitive strategy is a crucial thread which runs through the course.

The course emphasizes the role of IT in medium to large-scale (250+ employees) organizations, although much of the material is relevant to smaller organizations as well.

Both the readings and the assignments emphasize the role of the CIO in the organization, as the main party responsible for aligning an organization's strategic goals and its IT architecture and activities. The course also addresses the view and importance of technologists (possibly the CIO or CTO or their staff members) who *evaluate* new technologies as they emerge on the scene, and based on both operational and competitive perspectives, *make recommendations* about their adoption.

The course is divided into three parts as follows.

Information Systems Strategy

In this part—consisting of modules 1 and 2—we will examine overall business and organizational strategy, and how it relates to the role that IT plays in the organization. We willcover the following topics.

- Business Models, Competitive Strategy and Organization Mission: How businesses are modeled, and how they compete. The mission of businesses and other organizations, and the relationship between an organization's mission and its strategy.
- IT and the Digital Organization: The functionality of the digital organization, and the role that IT plays in supporting it. Competitive and operational perspectives on IT, including analysis of both benefits and risk.

Information Systems Technology

In the second part of the course—consisting of modules 3 and 4—we will cover the major components of information systems technology and architecture. In addition to the technology itself, we examine its strategic value, and the impacts of its deployment. We will cover the following topics.

- Data, Application and Business Process Integration: Underlying technology basics, issues and approaches for integrating systems across the enterprise.
- Cross-Functional Enterprise Systems: The characteristics and issues of ERP and SCM Systems
- Communication and Collaboration Systems: The technology and the organizational and strategic impacts of communication and collaboration systems.
- Analytics: The technology and value of data warehousing, data mining, and model-based decision support systems.
- E-commerce: Technologies and business approaches and models, for marketing, sales and delivery of products and services using the web
- M-commerce: Technologies and business approaches and models, using mobile computing
- Utility-based computing, including cloud computing and software-as-a-service

Information Systems Management

In the third part of the course—consisting of modules 5 and 6—we will turn to the management of information systems. Specifically, we will address the following:

- IT Management and Governance: How decisions are made about adoption, investment, implementation, and deployment of information technology within organizations. Organizational perspectives on project planning and implementation.
- Security, Availability, Privacy and Compliance: How organizations ensure their systems are reliable and available, deal with privacy and security concerns, and ensure compliance with government regulations
- Future of IT: Outsourcing, the growth of utility computing, and how changes in IT will affect both organizations and individuals.
- Technology Adoption and Innovation: How to determine whether, when and how an organization should adopt new technology and how IT organizations can be forces for innovation.

Resources

Online Resources

Below, you will find a list of the most important and useful online resources related to this course. They are a good source for research for your assignments and discussions. *Please note that due to copyright restrictions, we are unable to provide active hyperlinks for some websites.*

Magazines Available Online

Many of these magazines are available through the BU Library (www.bu.edu/library)

Baseline Magazine - www.baselinemag.com
Business Intelligence Review - www.bireview.com
Business Week - www.businessweek.com
CIO Insight - www.cioinsight.com
CIO Magazine - www.cio.com
Computer World - www.computerworld.com
CSO Magazine - www.csoonline.com
Fast Company - www.fastcompany.com
Info World - www.infoworld.com
InformationWeek - www.informationweek.com
IT Business Edge - www.itbusinessedge.com
Red Herring - www.redherring.com
Strategy and Business - www.strategy-business.com

Other Online Resources

Managing the Digital Enterprise - www.digitalenterprise.org
NetMBA - www.netmba.com
QuickMBA - www.quickmba.com
Wikipedia - www.wikipedia.org

Online Journal Access

There are a number of online journals that have particularly useful articles, in particular
Communications of the ACM - www.acm.org/pubs
Harvard Business Review - https://hbr.org/
Information Systems Management - www.ism-journal.com
Journal of Management Information Systems - www.jmis-web.org
MIT Sloan Management Review - sloanreview.mit.edu

Boston University Library Information

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

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Download

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

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

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

Go to http://www.bu.edu/library/research/collections to access eBooks and eJournals directly.

If you have questions about library resources, go to http://www.bu.edu/library/help/ask-a-librarian to email the library or use the live-chat feature.

To locate course eReserves, go to http://www.bu.edu/library/services/reserves.

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

Free Tutoring Service

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

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

Please Note

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

Study Guide

The required readings, discussion particulars, and assignment particulars can be found within the modules, in the "Discussion" section of the course, and in the "Assignment" sections respectively.

Module 1 Study Guide and Deliverables

Readings:

- Online lectures
- Porter, "How competitive forces shape strategy"
- Porter, "How information gives you competitive advantage"
- Porter, "Porter's Five Forces (Strategy Skills)"
- Owens, "What is a business model"
- Magretta, "Why business models matter"
- Alystne/Parker/Choudray, "Piplelines, Platforms, and the new rules of strategy"
- Chen/Kraemer/Sharma, "Google: The world's first information utility?"
- Kraemer/Dedrick, "Dell Computer: Organization of a Global Production Network" pp. 1–17

Supplementary Readings:

- Steve Baca, "Cloud Computing: What it is and what it can do for you"
- Lim/Babu/Chase/Parekh, "Automated Control in Cloud Computing: Challenges and Opportunities"
- Joel York, "SaaS Business Model Article"
- Burde, Desai, Gilliam, "How to measure your IT portfolio"
- Xellentro, 2014, "Portfolio Management Metrics"

Discussions: Discussion 1 postings Due June 5th 6 PM EST

Assignments: Assignment 1 Due June 5th 6 PM EST

Assessments: Quiz 1 Due June 5th 6 PM EST

Module 2 Study Guide and Deliverables

Readings:

- Online lectures
- Linden/Dedrick/Kraemer, "Innovation and Job Creation in a Global Economy: The case of Apple iPod"
- Case Study: Amazon and Yelp
- Case Study: Amazon and WiPro
- Case Study: Feeding 10 Billion People

- Case Study: Netflix
- Big Data, Big Ruse
- Davenport/Patil 2012, "Data Scientist the sexiest job of the 21st Century"

Supplementary Readings:

- Lean Agile Practices
- Buying from the Grid
- What is DevOps
- DevOps, it's not about the technology
- Adopting DevOps
- The Phoenix Project (excerpt, not entire book)

Discussions: Discussion 2 postings Due June 19th 6 PM EST

Assignments: Assignment 2 Due June 19th 6 PM EST

Assessments: Quiz 2 Due June 19th 6 PM EST

Module 3 Study Guide and Deliverables

Readings:

- Online lectures
- Ian Gordon, CRM Is a Strategy Not a Tactic
- Chuck Shaeffer, Design Thinking Applied to CRM
- Case Study: Sales Force ROI
- Trexin, ERP Importance
- Gartner, ERP Gartner Report
- Case Study: Nestle ERP Implementation
- Dan Gilmore, What is a supply chain strategy?
- Case Study: McDonalds Supply Chain

Supplementary Readings:

- David Taber, "Cloud Computing and CRM Platforms"
- SaaS for Governments
- Data Virtualization Overview
- Chuck Shaeffer, The Strategic Importance of Measuring Customer Lifetime Value
- Perez, Supply Chain Strategies: Which one hits the mark
- CRM Trends, CRM
- Brian Sletten, "Resource Oriented Architecture: The Rest of REST"

Discussions: Discussion 3 postings Due July 3rd 6 PM EST

Assignments: Assignment 3 Due July 3rd 6 PM EST

Assessments: Quiz 3 Due July 3rd 6 PM EST

Module 4 Study Guide and Deliverables

Readings:

- Online lectures
- 2016 Augment News, The Evolution of e-commerce over the last decade
- Siwicki 2014, E-Commerce and M-Commerce over the next 5 years
- Maleske, 2013, SOX Changed Corporate Governance
- MCD, 2016, Top 10 Marketing Trends for m-commerce
- Case Study review: Timberland
- Case Study review: Dell E-Commerce

Supplementary Readings:

- Michael Friedenberg, "Catching the M-business wave"
- Mobile Business – Emerging Trends

Discussions: Discussion 4 postings Due July 17th 6 PM EST

Assignments: Assignment 4 Due July 17th 6 PM EST

Assessments: Quiz 4 Due July 17th 6 PM EST

Module 5 Study Guide and Deliverables

Readings:

- Online lecture
- Farrell 2004, Beyond Offshoring: Assess Your Companies Global Potential
- Farrell 2008, Smarter Offshoring
- McKinsey 2014, Next-shoring: A CEO's Guide
- Edlich/Khetarpal 2013, Offshore Centers can offer more than lower costs
- Robinson 2016, Nearshoring and Reshoring Will Continue to Increase Thanks to these main Benefits
- Potts, 2013, Disaster Recovery is not Business Continuity
- 2013, Disaster Recovery and Business Continuity – Related but not the same
- Mendenhall/Pryor, Strategic Planning Failures
- Project Management Institute, PMI Executive Guide
- International Journal of Computer Applications (0975–8887), 2014, Project Management Failures Case Studies
- Intuit "Innovation in customer driven development…"

Discussions: Discussion 5 postings Due July 31st 6 PM EST

Assignments: Assignment 5 Due July 31st 6 PM EST

Assessments: Quiz 5 Due July 31st 6 PM EST

Module 6 Study Guide and Deliverables

Readings:

- Online lecture
- Peter Weill and Jeanne Ross, "IT Governance on One Page"
- Lisa Välikangas and Michael Gibbert, "Boundary-Setting Strategies for Escaping Innovation Traps"
- Sai/Weill/Soh, 2016 "Global IT Management: Structuring for Scale, Responsiveness, and Innovation"
- Schaeffer, "The Strategic Importance of Measuring Customer Lifetime Value"
- Martin, 2014 "The Big Lie of Strategic Planning"
- John C. Burke, and Michael J. Shaw, "IT Portfolio Management: A Case Study"

Supplementary Readings:

- "Is Groupon Bad for Business?" Primer: http://www.bu.edu/today/2011/groupon-bad-for-business/
- Publication: http://arxiv.org/abs/1109.1530 (top right corner under "Download")
- Burde, Desai, Gilliam, 2010, How to measure your IT portfolio
- Xellentro, 2014, "Portfolio Management Metrics"

Discussions: Discussion 6 postings Due August 7th 6 PM EST

Assignments: Assignment 6 Due August 7th 6 PM EST

Assessments: Quiz 6 Due August 7th 6 PM EST

Final Exam Details

The Final Exam will be held inclass on **August 7th**.

The exam is a three-hour open-book exam consisting of essay questions. It will only be accessible during the final exam period. You can access it from either the Assessments section of the course or from the Final Exam module on the home page. Your proctor will enter the password to start the exam. Please see the Final Exam Instructions in the Final Exam module for more information.

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

References

The references are supplied within the notes, except, on occasion, for the following.

[Obr] “Management Information Systems 10th Edition,” McGraw-Hill, 2011

Course Grading

Absorbing and creating IT perspectives is expected of everyone. To attain excellence ("A" work), you will be expected to develop excellent analyses and comparisons. The course grading is designed to have you function as a competent IT professional.

There are three components to your grades, promoting various types of learning.

1. Weekly Assignments

   Most of the content of the course will be explored through weekly assignments that study actual cases or encourage you to extrapolate from your own organizations and experiences. Each assignment is counted equally. The assignment grading criteria are described below. The assignments are research focused, it is imperative that you provide appropriate citations in your submissions. Please review carefully the “Reference and Citation Guide” and “Academic Conduct” sections below.

2. Discussions

   You will learn a great deal by interacting (asynchronously) with the other students in the class, and your grade is not dependent on this activity. However, you can earn up to 3% of extra credit if you do participate in discussions, please see grading computations below. Postings will be graded and up to 3% can be applied as extra credit to your final grade. It is important that you have meaningful posts and invoke conversation with your fellow classmates. Please post often.

3. Weekly Assessments

   Each week there will be an assessment containing multiple choice questions which will cover the material located within the modules and the text book only. The assessments will NOT cover any article or business case readings.

4. Final

   There will be a three-hour final exam which is similar in overall style to the homework's. This provides you the opportunity to show what you have learned from the material, the discussions, and from doing the homework

The course grade will be computed as follows.

Weekly Assignments	30%
Discussions	3% (Extra Credit)
Weekly Assessments	30%
Proctored Final Exam	40%

Evaluation Criteria and Grading Rubric

To clarify the qualities we consider most important for your professional and academic growth, we will provide you with evaluation criteria for every assignment in advance. To enable you to assess your grade standing throughout the course, your instructor will give your submissions a letter grade on each criterion. The letter grades are the same as those used by the University (A = 4.0, B = 3.0, etc.). Letter grades are used to enable you to know where you stand at all times. For the purposes of computation and averaging, letter grades can be treated as numbers using the University's system:

Letter Grade	Approximate percentage grade range	Grade Points
A	96–100	4.0
A-	91–95	3.7
B+	86–90	3.3
B	81–85	3.0
B-	76–80	2.7
C+	71–75	2.3
C	66–70	2.0
C-	61–66	1.7
D	56–60	1.0
F	0–55	0

To obtain an "A" for the course, you need to score 4.0 or higher; to obtain an "A-", 3.7 or higher; "B+", 3.3 or higher, etc.

An "A" grade at Boston University is reserved for excellent work. If you are given and A, you are to be especially congratulated. The university officially designates good work as deserving of a "B" and we reward good work with a "B"

accordingly. It is our obligation to tell you as far as we can what would improve your work. (That can sometimes be hard if you receive an A or A+, of course.) Grades are an excellent motivator but they are only means to an end rather than ends in themselves. The average grade in graduate courses is usually expected to be a B+. If the average turns out to be less than this at the end of the term, and the class performance is no less than average, I am able to elevate some grades that fall on borderlines. Grades are an evaluation of your work at a particular time: I recommend that you never take a grade as any kind of label of yourself. All submissions in this course will be graded on a 100 point scale.

Discussion Participation

We will retrieve all of the contributions that you make online during each week. This is an important and motivating part of the learning process. Participation will consist of weekly discussions on subjects provided each week. Make your online comments substantive. They should relate to your experience or your reading. They should not mention the specifics of the homework or its solution. A contribution may contain a question for the group to consider. A good question is one that you have thought about, whose answer would be useful for all, which does not have a ready answer in the text readings, and which is clearly phrased. However, discussions are extra credit and can count towards 3% extra credit to your final average.

Lateness

We recognize that emergencies occur in professional and personal lives. If one occurs that prevents your completion of homework by a deadline, please make this plain to your instructor. This must be done in advance of the deadline (unless the emergency makes this impossible, of course), and should be accompanied by particulars that back it up. No credit will otherwise be granted for late homework. We want to be fair to everyone in this process, including the vast majority of you who sacrifice so much to submit your homework on time in this demanding schedule. However, understand that if no contact is made with your instructor, describing the situation which caused your submission to be late, there will be a 15% deducted per day the assignment is late.

Criteria for Homework Assignment Grading

The assignments are essay-type for the most part, and we make every effort to provide you objective feedback and evaluation. For each of your assignments—as well as the final questions—your facilitator will assess your work using the table. The “Utilization of resources” criterion does not apply to evaluating the questions on the final.

	D	C-	C+	B-	B+	A
1. Clarity	Disorganized or hard-to-understand		Satisfactory but some	Generally organized and	Very clear, organized and	Exceptionally clear,

			parts of the submission are disorganized or hard to understand	clear	persuasive presentation of ideas and designs	organized and persuasive presentation of ideas and designs
2. Technical Soundness	Little understanding of, or insight into material technically		Some understanding of material technically	Overall understanding of much material technically	Very good overall understanding of technical material, with some real depth	Excellent, deep understanding of technical material and its inter-relationships
3. Thoroughness & Coverage	Hardly covers any of the major relevant issues		Covers some of the major relevant issues	Reasonable coverage of the major relevant areas	Thorough coverage of almost all of the major relevant issues	Exceptionally thorough coverage of all major relevant issues
4. Relevance	Mostly unfocused	Focus is off topic or on insubstantial or secondary issues	Only some of the content is meaningful and on topic	Most or all of the content is reasonably meaningful and on-topic	All of the content is reasonably meaningful and on-topic	All of the content is entirely relevant and meaningful
5 Utilization of resources	No useful use of notes, text(s), or Web with incorrect details or applicability		Some useful use of notes, text(s), or Web with mostly correct details or applicability	Fairly good use of notes, text(s), or Web with correct details or applicability	Very good use of notes, text(s), or Web with correct details or applicability	Excellent use of notes, text(s), or Web with entirely correct details or applicability

If you have thoughtful questions about your facilitator's evaluation, please discuss them with him or her in an academic manner. This can be an excellent opportunity to learn and to identify misperceptions. It is best if this process resolves but if it is necessary for the course professor to re-grade an assignment, he independently grades the entire assignment—not parts—using the criteria above. This grade would replace the facilitator's.

Lateness

We recognize that emergencies occur in professional and personal lives. If one occurs that prevents your completion of homework by a deadline, please make this plain to your instructor. This must be done in advance of the deadline (unless the emergency makes this impossible, of course), and should be accompanied by particulars that back it up. No credit will otherwise be granted for late homework. We want to be fair to everyone in this process, including the vast majority of you who sacrifice so much to submit your homework on time in this demanding schedule. However, understand that if no contact is made with your instructor, describing the situation which caused your submission to be late, there will be a 15% deducted per day the assignment is late.

If you are granted an extension as above, your facilitator will specify a window of submission. For example, if homework 2 is to be late, the window for its submission may be after the submission of homework 3 and prior to the commencement of module 4—to forestall cascading lateness. The grade for late homework with permission may become pass/fail.

Criteria for Discussion Grading

The discussions focus only on the online lecture material and associated readings in the textbook for that week and on relating them to real life. In the Subject, each contribution should number and name the specific lecture section or textbook reading page numbers that it references.

Here are guidelines to the kind of material to post.

- Relate the cited section or textbook reading page(s) to an experience of yours
- Relate the cited section or textbook reading page(s) to a reported incident
- Ask your classmates a thoughtful question about the cited section
- Make informed predictions
- Clarify the cited section if you have insights that others would find informative
- Respond with substance to a posting on the cited section (Also, do provide feedback, complements, or just “I agree” if you feel that way, even though this does not do much for your grade)
- Relate the lecture material and the textbook

The criteria for participation in the weekly discussions are as follows.

(i) Relevance

This concerns the degree to which your postings are relevant to the stated topic for the module. “A” work consists of postings which all refer to and are entirely relevant to the week's module material. This criterion encourages you to keep your discussion grade on topic.

(ii) Proportion of substantive contributions.

This is the percentage of your on-line contributions that have significant content: 80% would be a good fraction (=B); 95% is definitely excellent (=A). This criterion implies that “more is not necessarily better:” For example, 8 substantial contributions out of 10 will score higher on this criterion than 79 contributions out of 100 with mixed substance—even though you have said more in the latter case. In assessing this criterion, we will ignore postings that are appropriate but obviously not intended to contain content, such as feedback, complements, or just “I agree”.

Extensive quoted material that can be read from the Internet will fare poorly under this criterion since it is not the student’s contribution.

(iii) Usefulness of your week's contributions for the rest of your group.

This evaluates how useful and penetrating the totality of your comments and questions are for the rest of the group. “A” work will result from a significant set of comments and questions that are very useful to your fellow students, and which show that you are developing excellent insight into the subject at hand. This criterion encourages you to disseminate knowledge and to be participatory (e.g., by responding to good questions or points posed by others).

Contribute at an even rate of substantive postings throughout the week. Contributions concentrated at the end of the week are far less useful to your classmates because they have little time to absorb and respond.

Long posts are also far less likely to be read by your fellow students and will thus fare poorly in this criterion.

Grade Computations

Your facilitator will give your submissions a letter grade on each criterion. The letter grades are the same as those used by the University (A, A-,B+ etc.). This enables you know where you stand at all times because they are very unlikely to be “curved” at a later time. For the purposes of computation and averaging, letter grades are treated as numbers using the University's system, as follows.

A = 4.0; A- = 3.7; B+ = 3.3; B = 3.0; B- = 2.7; etc.

To obtain an "A" for the course, you need to score 3.85 or higher; to obtain an "A-", 3.7 or higher; "B+", 3.3 or higher, etc.

An "A" grade at Boston University is reserved for excellent work. If you are given and A, you are to be congratulated. There will be A’s granted in the course. The university officially designates good work as deserving of a "B" and we reward good work with a "B" accordingly. It is our obligation to tell you as far as we can what would improve your work. If you don't see such feedback, please remind your facilitator about it. Grades are an excellent motivator but they are means to an end rather than ends in themselves. The average grade in graduate courses is usually expected to be a B+ (3.3). If the course average turns out to be less than this at the end of the term, and the class performance is not less than average, the course professor is able to elevate some grades that fall on borderlines.

Reference and Citation Format Guide

The operative procedure for academic conduct are the Metropolitan College academic conduct code, which is referred to elsewhere in this syllabus. The following is supplied to assist you in fulfilling this but in case of any inconsistency, the College academic conduct code predominates.

In general, you need to to build on the ideas of others. But when you use someone's ideas, it is your responsibility to acknowledge this clearly. A *citation* is used to cite a referenced document within the body of your paper. Citations use a bracketed code that points to a reference. For example, at the place in your material where you quote from or use the ideas of the paper "Capabilities-Based Query...," you would include "[Pap96]"—and you would include the following at the end of the paper, under "References."

[Pap96] Y. Papakonstantinou, A. Gupta, and L. Haas, "Capabilities-Based Query Rewriting in Mediator Systems," In Proc. PDIS Conf, pages 170-181, 1996. Available online at http://dbpubs.stanford.edu:8090/aux/index-en.html

Here is an example of this.

> As noted by [Pap02], the degree of connectivity of …

If it is appropriate to cite multiple documents together, then separate the codes by commas within a single pair of brackets. For example,

> It is well know that there are multiple approaches in dealing with amorphous competition [Bel99, Did66b, Plo01].

In addition, please note the following.

- All documents referenced are identified by a code, in brackets, which consists of the first 3 letters of the first author of the paper, followed by the last 2 digits of the year the paper is published.
- If a document does not have a clearly identifiable author (e.g. it is published by an organization such as Oracle), identify the document by the name of the organization, e.g. [Ora98].
- If multiple papers are included which would have the same code, distinguish them by a letter suffix, e.g. [Pap96a], [Pap96b], etc.
- If the year in which a document is published is not possible to determine, make an educated guess. You can optionally, in this case, precede the year with a question mark e.g. [Pap?96]
- In addition to the code, the reference must include the names of the authors (if known), the title of the document (in quotes), the name of the book or proceedings, if any, in which it appears (along with the page numbers where the article can be found), and the year.
- If you use an online article, you must also include the URL (*in addition to* the title, author & date). In some cases, only the abstract of the article can be found online, in this case, you can include the URL of the abstract, but make clear that it is only the abstract which is available online. Supply the date at which you used the URL.
- List the references in order of their codes—in alphabetical order of the initial 3 letters, and then most recent articles first (i.e. [Pap04] should appear before [Pap02], which should appear before [Pap98]).

Citations

A ***citation*** is used to *cite* a referenced document within the body of your paper. Citations use the same bracketed code as references. For example

As noted by [Pap02], the degree of connectivity of…

If it is appropriate to cite multiple documents together, then separate the codes by commas within a single pair of brackets. For example,

It is well know that there are multiple approaches in dealing with amorphous competition [Bel99, Did66b, Plo01].

Academic Conduct Policy

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

A Definition of Plagiarism

> "The academic counterpart of the bank embezzler and of the manufacturer who mislabels products is the plagiarist: the student or scholar who leads readers to believe that what they are reading is the original work of the writer when it is not. If it could be assumed that the distinction between plagiarism and honest use of sources is perfectly clear in everyone's mind, there would be no need for the explanation that follows; merely the warning with which this definition concludes would be enough. But it is apparent that sometimes people of goodwill draw the suspicion of guilt upon themselves (and, indeed, are guilty) simply because they are not aware of the illegitimacy of certain kinds of "borrowing" and of the procedures for correct identification of materials other than those gained through independent research and reflection."
>
> "The spectrum is a wide one. At one end there is a word-for-word copying of another's writing without enclosing the copied passage in quotation marks and identifying it in a footnote, both of which are necessary. (This includes, of course, the copying of all or any part of another student's paper.) It hardly seems possible that anyone of college age or more could do that without clear intent to deceive. At the other end there is the almost casual slipping in of a particularly apt term which one has come across in reading and which so aptly expresses one's opinion that one is tempted to make it personal property."
>
> "Between these poles there are degrees and degrees, but they may be roughly placed in two groups. Close to outright and blatant deceit-but more the result, perhaps, of laziness than of bad intent-is the patching together of random jottings made in the course of reading, generally without careful identification of their source, and then woven into the text, so that the result is a mosaic of other people's ideas and words, the writer's sole contribution being the cement to hold the pieces together. Indicative of more effort and, for that reason, somewhat closer to honest, though still dishonest, is the paraphrase, and abbreviated (and often skillfully prepared) restatement of someone else's analysis or conclusion, without acknowledgment that another person's text has been the basis for the recapitulation."

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

Academic Conduct Code

I. **Philosophy of Discipline**

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

II. **Academic Misconduct**

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

III. **Violations of this Code**

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

A. **Cheating on examination**. Any attempt by a student to alter his or her performance on an examination in violation of that examination's stated or commonly understood ground rules.
B. **Plagiarism.** Representing the work of another as one's own. Plagiarism includes but is not limited to the following: copying the answers of another student on an examination, copying or restating the work or ideas of another person or persons in any oral or written work (printed or electronic) without citing the appropriate source, and collaborating with someone else in an academic endeavor without acknowledging his or her contribution. Plagiarism can consist of acts of commission-appropriating the words or ideas of another-or omission failing to acknowledge/document/credit the source or creator of words or ideas (see below for a detailed definition of plagiarism). It also includes colluding with someone else in an academic endeavor without acknowledging his or her contribution, using audio or video footage that comes from another source (including work done by another student) without permission and acknowledgement of that source.
C. **Misrepresentation or falsification of data** presented for surveys, experiments, reports, etc., which includes but is not limited to: citing authors that do not exist; citing interviews that never took place, or field work that was not completed.
D. **Theft of an examination**. Stealing or otherwise discovering and/or making known to others the contents of an examination that has not yet been administered.

E. **Unauthorized communication during examinations**. Any unauthorized communication may be considered prima facie evidence of cheating.
F. **Knowingly allowing another student to represent your work as his or her own**. This includes providing a copy of your paper or laboratory report to another student without the explicit permission of the instructor(s).
G. **Forgery, alteration, or knowing misuse of graded examinations, quizzes, grade lists, or official records of documents**, including but not limited to transcripts from any institution, letters of recommendation, degree certificates, examinations, quizzes, or other work after submission.
H. **Theft or destruction of examinations or papers** after submission.
I. **Submitting the same work in more than one course** without the consent of instructors.
J. **Altering or destroying another student's work or records**, altering records of any kind, removing materials from libraries or offices without consent, or in any way interfering with the work of others so as to impede their academic performance.
K. **Violation of the rules governing teamwork**. Unless the instructor of a course otherwise specifically provides instructions to the contrary, the following rules apply to teamwork: 1. No team member shall intentionally restrict or inhibit another team member's access to team meetings, team work-in-progress, or other team activities without the express authorization of the instructor. 2. All team members shall be held responsible for the content of all teamwork submitted for evaluation as if each team member had individually submitted the entire work product of their team as their own work.
L. **Failure to sit in a specifically assigned seat during examinations.**
M. **Conduct in a professional field assignment that violates the policies and regulations of the host school or agency.**
N. **Conduct in violation of public law occurring outside the University that directly affects the academic and professional status of the student, after civil authorities have imposed sanctions.**
O. **Attempting improperly to influence the award of any credit, grade, or honor.**
P. **Intentionally making false statements to the Academic Conduct Committee or intentionally presenting false information to the Committee.**
Q. **Failure to comply with the sanctions imposed under the authority of this code.**

Important Message on Final Exams

Dear Boston University Computer Science Online Student,

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

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

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

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

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

Regards,

Professor Lou Chitkushev, Ph.D.
Associate Dean for Academic Affairs
Boston University Metropolitan College

Who's Who: Roles and Responsibilities

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

People in Your Online Course in Addition to Your Fellow Students

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

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

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

People Not in Your Online Course

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

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

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

Andrew Gorlin, Academic Advisor. Reviews requests for transfer credits and waivers and advises students on which courses to take to meet their career goals. He can be reached at asgorlin@bu.edu.

Your Faculty Coordinator of the MSCIS Online Program, Andrew Wolfe. Andrew is responsible for the MSCIS online program. Feel free to contact him at awolfe@bu.edu or (617) 358-1984.

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

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

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

Disability Services

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

Netiquette

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

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

Ask Yourself...

- How would I say this in a face-to-face classroom or if writing for a newspaper, public blog, or wiki?
- How would I feel if I were the reader?
- How might my comment impact others?
- Am I being respectful?
- Is this the appropriate area or forum to post what I have to say?

Writing

When you are writing, please follow these rules:

- **Stay polite and positive in your communications**. You can and should disagree and participate in discussions with vigor; however, when able, be constructive with your comments.
- **Proofread your comments before you post them.** Remember that your comments are permanent.
- **Pay attention to your tone.** Without the benefit of facial expressions and body language your intended tone or the meaning of the message can be misconstrued.
- **Be thoughtful and remember that classmates' experience levels may vary.** You may want to include background information that is not obvious to all readers.
- **Stay on message.** When adding to existing messages, try to maintain the theme of the comments previously posted. If you want to change the topic, simply start another thread rather than disrupt the current conversation.
- **When appropriate, cite sources.** When referencing the work or opinions of others, make sure to use correct citations.

Reading

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

- **Respect people's privacy.** Don't assume that information shared with you is public; your peers may not want personal information shared. Please check with them before sharing their information.
- **Be forgiving of other students' and instructors' mistakes.** There are many reasons for typos and misinterpretations. Be gracious and forgive other's mistakes or privately point them out politely.
- **If a comment upsets or offends you, reread it and/or take some time before responding.**

Important Note

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

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

Registration Information and Important Dates

View the drop dates for your course.

Withdraw or drop your course.

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

Technical Support

Experiencing issues with BU websites or Blackboard?

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

Boston University technical support is available via email (ithelp@bu.edu), the support form, and phone (888-243-4596). Please note that the IT Help Center has multiple locations. All locations can be reached through the previously mentioned methods. For IT Help Center hours of operation please visit their contact page. For other times, you may still

submit a support request via email, phone, or the support form, but your question won't receive a response until the following day. If you aren't calling, it is highly recommended that you submit your support request via the technical-support form as this provides the IS&T Help Center with the best information in order to resolve your issue as quickly as possible.

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

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

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

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

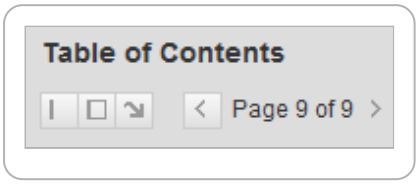
Navigating Courses

For best results when navigating courses, 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- and previous-page buttons (and icons) in the top-right corner of the learning content.

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

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



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

Web Resources/Browser Plug-Ins

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

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

How to Clear Your Browser Cache

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

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

Boston University Metropolitan College