Syllabus

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

Course Description

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

MET CS781

Advanced Health Informatics

This course presents the details of health care data and information, health care information systems (HCIS), and the management of information technology (IT) challenges. The course is organized into six modules. In each module, readings from peer-reviewed and industry literature complement textbook reading. The first part of the course introduces health care regulations, laws, and standards related to health care information along with core concepts of patient safety and data driven medical decision-making. The second part delves into depth with analytical methods and standards for health data, application design, deployment, lifecycle, governance and achieving value. The course has a term project providing students a hands-on experience in HCIS research.

Technical Note

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

Course Objectives

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

- Learn regulations, laws, and standards related to health care and information systems
- Learn about the use of artificial intelligence in healthcare
- Learn security and privacy issues related to health information
- Work with different types of health care data, information, and standards and their application to population health analysis
- Learn about key issues in system and application development, design, human error, and usability related to health IT systems
- How to assess the value of health information technology
- Understand the various aspects of managing IT challenges and professional development as it relates to heath informatics

Prerequisites

MET CS580 or instructor approval

Course Structure

Module	Lecture	Description
Module 1	Lecture 1	Licensure, Accreditation, Certification & Quality Measurement
Module 1	Lecture 2	The Human Element in Health IT
Module 2	Lecture 3	Working with Health Information & Standards
Module 2	Lecture 4	Uncertainty in Medical Diagnosis & Decision Making
Module 3	Lecture 5	Artificial Intelligence, Machine Learning, Generative AI (GenAI), & Natural Language Processing (NLP)
Module 3	Lecture 6	Working with Big Data & Biomedical Simulations

Module 4	Lecture 7	Methods in Informatics Research & Analysis
Module 4	Lecture 8	Health IT Design & User Centered Design
Module 5	Lecture 9	System Development Lifecycle
Module 5	Lecture 10	Health Data Privacy and Security
Module 6	Lecture 11	Informatics Discipline, Knowledge Management & Professional Development
Module 6	Lecture 12	Governance & Assessing Value in Health IT

Course Overview

Module 1

- Discuss accreditation, licensure, and certification of health care facilities and how these define the information needs. Understand the legal requirements for managing health records.
- Understand existing and emerging payment models for healthcare and how these affect health information technology use.
- Learn about the development and calculation of quality measures
- Review the prevalence and causes of medical error
- Discuss the impact of poorly designed systems on user satisfaction and efficiency
- Review background on federal programs affecting health data and quality
- Learn the strategies for effective change management.

Module 2

- Understand the theory and process behind medical decision making
- Explain Bayes Theorem and application to health informatics
- Discuss the causes and consequences of uncertainty in medicine

- Learn about various biases and heuristics that affect decision making
- Review major informatics vocabularies, terminologies and ontologies
- Introduce specific standards used to communicate medical data
- Review the major types of health care information standards and the organizations that develop or approve them
- Discuss multiple models for health information exchange

Module 3

- Review use of current techniques in artificial intelligence including machine learning, generative AI, and natural language processing
- Review sensitivity, specificity, and evaluation of medical diagnostics and therapies
- Define and explore big data in medicine
- Develop hands-on experience working with medical data
- Introduce initiative affecting patient access to medical information
- Review methods for data analysis and simulations in healthcare

Module 4

- Identify methods of health IT analysis and research.
- Demonstrate techniques for the evaluation of systems, processes, and analytics.
- Describe research methods in advanced informatics.
- Explain principles of good Health IT design and its impact.
- Analyze major parts of sociotechnical framework and user-centered design.
- Perform usability analysis.
- Review national guidance and practices to improve the safety of health applications.

Module 5

- Learn the system development life cycle (SDLC) and the process that a healthcare organization typically goes through in implementing a HCIS
- Understand the organizational factors that can affect system acceptance and study strategies for managing change Learn about how the culture of an organization affects implementation and performance
- Review privacy regulations and requirements for patient confidentiality.
- Learn about the Health Insurance Portability and Accountability Act (HIPAA) security regulations
- Understand security programs and the major threats to security in all industries and especially of health care information

Module 6

- Describe the discipline of health informatics
- Define concepts of data, information, and knowledge
- Identify key professional and academic societies
- Explain the roles, responsibilities, and functions of the IT department and key IT staff
- Explain complementary strategies, strategy evolution, and governing concepts
- Describe IT-enabled value, including both tangible and intangible value
- Demonstrate calculation methods for health IT value, including ROI, IRR and NPV
- Explain why IT investments can fail to deliver return
- Summarize the factors that contribute to IT project failures
- Describe key concepts of IT governance

Module 7 - Course Completion

- Complete and submit the term project
- Present term project to the teaching team
- Prepare for and take the final exam

Instructor

Michael Levinger

mlevinge@bu.edu

Michael Levinger is an adjunct faculty member of Boston University's MET College. He created CS581 in 2009 and has been teaching the course ever since. Michael is an information technology and healthcare IT senior executive and multi-time entrepreneur specializing in the successful creation, deployment and use of mission-critical software including Health Information Systems, Electronic Health Records, MedTech, and other Health Information Technology. Most recently, Mike was responsible for the introduction of innovative consumer-oriented, Internet of Things (IoT) connected medical devices. Previously, Mike was the Chief

Operating Officer of a business process outsourcing company specializing in healthcare quality reporting which made extensive use of EHRs. Previously, Mike founded a care coordination company and was President and CEO of an electronic health record consulting and systems integration company. Mike is a former advisor to the University of Missouri Medical School Healthcare Management and Informatics Department and an active member of several healthcare industry organizations.

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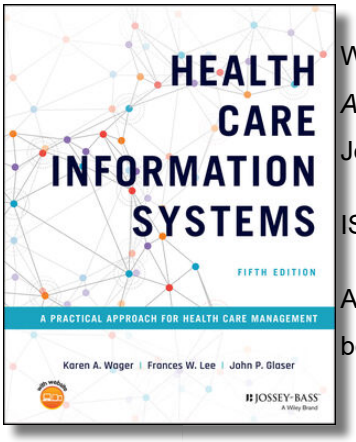
Course Resources

Required Books



Wager, K.A., Lee, F.W., & Glaser, J.P. (2022). *Health care information systems: A practical approach for health care management* (5th ed.). Jossey-Bass.

ISBN: 978-1119853862.

An e-book is available through Barnes and Noble at Boston University. An e-book is available through Amazon.

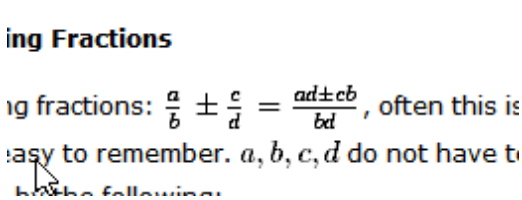
Optional Textbooks

The course uses readings from the textbook, published peer-reviewed articles, and online sources. When a reading assignment says "Review" you are expected to only review and skim the material, understanding what topics it covers and knowing it is available as a reference. You are NOT expected to read the full site or document in depth. These articles will be available online or be accessible for free through PubMedCentral or may also be accessed through BU Library Link resources.

Other Resources

MathJax

Variables, formulae, and equations in this course are rendered using MathJax.



To enable its features in your browser, right-click (or ctrl-click on a single-mouse-button Mac) on a variable or equation to see your MathJax settings.

MathJax can be used with the MathPlayer plugin for Internet Explorer, which converts math to speech and highlights the math as it is spoken.

Boston University Library Information

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

met_ode_library_14_sp1_00_intro video cannot be displayed here

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

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

Please Note

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

Study Guide

This course starts on a **Tuesday**. The modules in this course run from **Tuesday to Monday**. Assignments, quizzes, and discussion posts are due on the **Thursday** ten days after each module starts.

Module 1 Study Guide and Deliverables

Required reading:

- Wager 5th Edition: Chapter 1 (p. 9-13) Chapter 2 (p. 28-35) & Chapter 3
- Understanding Clinical Quality Measures: How CMS is Modernizing Its Approach to Digital Measurement (56 minutes)
- CDS - Clinical Decision Support
- To Err is Human: Chapter 2: Errors in Health Care: A Leading Cause of Death and Injury

Additional reading:

- Unexpected increased mortality after implementation of a commercially sold computerized physician order entry system
- Emotional Aspects of Computer-based Provider Order Entry: A Qualitative Study
- Lessons From “Unexpected Increased Mortality After Implementation of a Commercially Sold Computerized Physician Order Entry System”
- 2024 Overview of the Quality Payment Program Video (43 minutes.

Remainder is Q&A)

Discussions:	Discussion 1 Medical Error due by Thursday, March 21 at 6:00 am ET
Assignment:	Assignment 1 Quality Measure due by Thursday, March 21 at 6:00 am ET
Assessments:	Quiz 1 due by Thursday, March 21 at 6:00 am ET
Live Classroom:	• Wednesday, March 13 from 8:00-9:30 pm ET • Saturday, March 16 from 11:30 am - 1:00 pm ET

Module 2 Study Guide and Deliverables

Required reading:	• Wager, Chapter 4: Realizing the Digital Health Promise with Electronic Health Records • HIMSS: Interoperability in Healthcare • Review ONC website discussion of HL7 Fast Health Interoperability Resource (FHIR) • Bayes Theorem • Visualization of Bayes Theorem • Emerging paradigms of cognition in medical decision-making (Patel, Kaufman, Arocha). Double-spaced version linked. You may also use journal version.
Additional reading:	• Identifying reasoning strategies in medical decision making: A methodological guide • Evidence-based Medical Decision Making: Deductive versus Inductive Logical Thinking • Clinical problem solving and diagnostic decision making: selective review of the cognitive literature (Elstein, Schwarz) • HL7 Fast Health Interoperability Resource • Introduction to DICOM • "Bayes' Theorem and the Physical Examination:

	Probability Assessment and Diagnostic Decision-Making" • Approaching Semantic Interoperability • Meaningful Use
Discussions:	Discussions 2 Information Exchange due by Thursday, March 28 at 6:00 am ET
Assignments:	Assignment 2 Socio-Technical Framework due by Thursday, March 28 at 6:00 am ET
Assessments:	Quiz 2 due by Thursday, March 28 at 6:00 am ET
Live Classroom:	• Wednesday, March 20 from 8:00-9:30 pm ET • Saturday, March 23 from 11:30 am - 1:00 pm ET

Module 3 Study Guide and Deliverables

Required reading:	• Chapter 11: Data Governance and Analytics and Chapter 13: Emerging Technology Management • A Review of the Role of Artificial Intelligence in Healthcare Journal of Personalized Medicine June 2023 • Introduction to Generative AI (GenAI) • Introduction to Natural Language Processing (NLP) • Overview of Data Analytics/

Population in Healthcare will be announced

- Review Office of the National Coordinator for Health IT Data Management Framework Including Data Quality
- Review Data Quality in Health Research: Integrative Literature Review

Additional reading:	• "AI revolution in medicine", The Harvard Gazette article (read and watch video) • S Lohr. For Big-Data Scientists, 'Janitor Work' Is Key Hurdle to Insights (requires BU login) • An automated technique for identifying associations between medications, laboratory results and problems • Importance of epidemiology and biostatistics in deciding clinical strategies for using diagnostic tests • Virtual Global Health: Computational Modeling and Simulation • Big Data In Health Care: Using Analytics To Identify And Manage High-Risk And High-Cost Patients • Simulation Shows Hospitals That Cooperate on Infection Control Obtain Better Results Than Hospitals Acting Alone
Discussions:	Discussions 3 Review of Medical Artificial Intelligence due by Thursday, April 4 at 6:00 am ET
Assessments:	Quiz 3 due by Thursday, April 4 at 6:00 am ET
Assignments:	Term Project Topic & Outline due by Thursday, April 4 at 6:00 am ET

Live Classroom:	• Wednesday, March 27 from 8:00-9:30 pm ET • Saturday, March 30 from 11:30 am - 1:00 pm ET

Module 4 Study Guide and Deliverables

Required reading:	• Wager Chapter 4, HCIS Usability and Safety Concerns (pages 77-87)
	• American Medical Informatics Association (AMIA) Informatics: "Research and Practice"
	• Review Health Informatics: Engaging Modern Healthcare Units: A Brief Overview
	• Clinical Tests: Sensitivity and Specificity
	• Electronic health record usability: analysis of the user-centered design processes of eleven electronic health record vendors
	• Review HealthIT.gov EHR Safety
	• MedStar Health: EHR — Watch video on:
	  ◦ Norepinephrine Difficult Data Entry
	  ◦ MRI Example 1 Complicated Workflow (all others videos optional)

Additional reading:	• JAMA evidence A Primer on the Precision and Accuracy of the Clinical Examination • NIST Integrating EHRs into Clinical Workflow: Ambulatory Care • Donald Norman The Design of Everyday Things: Revised and Expanded Edition ISBN 978-0465050659 • Steve Krug Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability (3rd Edition) ISBN 978-0321965516 • Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions • Graphical Display of Diagnostic Test Results: Comparison of 8 systems
Discussions:	Discussion 4 Privacy and Security due by Thursday, April 11 at 6:00 am ET
Assessments:	Quiz 4 due by Thursday, April 11 at 6:00 am ET
Assignments:	Assignment 3 Use of standards and data analysis by Thursday, April 11 at 6:00 am ET
Live Classroom:	• Wednesday, April 3 from 8:00-9:30 pm ET • Saturday, April 6 from 11:30 am - 1:00 pm ET

Module 5 Study Guide and Deliverables

Required reading:

- Wager
  - Chapter 7 (pages 143-146)
  - Chapter 8: System Implementation & Support
  - Chapter 12: Privacy and Security
- Review Wikipedia article on Systems development life cycle
- Atul Gawande TED Talk on How Do We Heal Medicine
- Review HIPAA Privacy
- Review HIPAA Security

Optional reading:

- Pronovost, P, Vohr, E. Safe Patients, Smart Hospitals: How One Doctor's Checklist Can Help Us Change Health Care from the Inside Out. ISBN 978-0452296862
- Roberta Ness Beyond the HIPAA Privacy Rule: Enhancing Privacy, Improving Health Through Research ISBN 978-0309124997
- Gawande, A. The Checklist Manifesto: How to Get Things Right. ISBN: 978-0312430009
- A Case Study of the Application of the Systems Development Life Cycle (SDLC) in 21st Century Health Care: Something

Old, Something New?

Discussions:	Discussions 5 What is Health Informatics due by Thursday, April 18 at 6:00 am ET
Assessments:	Quiz 5 due by Thursday, April 18 at 6:00 am ET
Assignments:	Assignment 4 Usability analysis due by Thursday, April 18 at 6:00 am ET
Live Classroom:	• Wednesday, April 10 from 8:00-9:30 pm ET • Saturday, April 13 time will be announced

Module 6 Study Guide and Deliverables

Required reading:

- Wager, 5th Edition:
  - Chapter 9: Assessing & Achieving Value in Health IT
  - Chapter 13: Data Governance and Management
  - Appendix B: Sample Chart and Job Descriptions
- Definition of Health Informatics
- Review What is Biomedical Informatics?
- Review Core Content for the Subspecialty of Clinical Informatics
- Video: Why AMIA (2 minutes)
- Regina Banjamin, M.D.,

	M.B.A. former Surgeon General of the United States "Finding My Way to Electronic Health Records"
Additional reading:	• Wager, Appendix A: Overview of the Health Care IT Industry • HIMSS Professional Development • Health Information and Technology Job Descriptions • AMIA Background • Video: Careers in Health Informatics
Discussions:	No discussion but use time for class project
Assessments:	No quiz but content will be included in final exam
Assignments:	Term project: Students perform a structured argument or original research relating to an informatics topic. Students are required to prepare a report and present to their facilitator, and optionally the professor and the class, online. The report is due by Tuesday, April 23 at 11:59 pm ET
In-Class Presentation:	To be arranged with course instructor.
Live Classroom:	• Wednesday, April 17 from 8:00-9:30 pm ET • Saturday, April 20 from 11:30 am - 1:00 pm ET • Course Review – Date and

	Time to be announced.
Course Evaluation:	Please complete the course evaluation once you receive an email or Blackboard notification indicating the evaluation is open. Your feedback is important to MET, as it helps us make improvements to the program and the course for future students.

Final Exam Details

The Final Exam is a proctored exam available from **Wednesday, April 24, at 6:00 AM ET to Saturday, April 27, at 11:59 PM ET**. The Computer Science department requires that all final exams be administered using an online proctoring service called Examity that you will access via your course in Blackboard. Detailed instructions regarding your proctored exam will be forthcoming from the Assessment Administrator. You will be responsible for scheduling your own appointment within the defined exam window.

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

Final Exam duration: **two hours**

Course Grading Information

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

Course Structure

This course is presented as a series of modules covered over two lectures. The course material is grouped in six modules. Modules 1–5 will have two lectures, one discussion topic, one quiz, and one assignment. There is also a term project to assess students' understanding and implementing simple Health Informatics

solutions. Module 6 will cover additional topics which may be on the final but have no associated assignment or quiz. In addition, Module 6 includes a review session covering key points taught in the course and student project presentations of the term project.

- **Reading materials** – Introduced in each module. When a reading assignment says "Review" you are expected to only review and skim the material, understanding what topics it covers and knowing it is available as a reference. You are NOT expected to read the full site or document in depth.
- **Quizzes** – This course will have 5 graded quizzes.
- **Assignments** - This course will have 4 graded assignments.
- **Discussions** – There are 5 graded discussion forums that involve posting and reviewing other student answers to the discussion topics.
- **Term Project** – The class project will test students' overall understanding and grasp of the course content. It will be submitted in written format and presented to the course teaching team.
- **Final Examination** – There will be a proctored Final Exam in this course using a proctor service called Examity. Detailed instructions regarding your proctored exam will be forthcoming from the Assessment Administrator. You will be responsible for scheduling your own appointment. You will have two hours to complete it; there should be plenty of time. The intent of the final exam is to evaluate your mastery of the course material, so that if you learn the course material well, you will do well on the final exam. The final exam consists of a combination of true/false, multiple choice, multiple answer, matching, short written answer, or short written essay questions. The format of the questions is similar to those in the quizzes.

Grade Weighting

The final grade for this course will be based on the following:

Deliverable	Weight	Description
Assignments	20%	4 formal assignments. Assignments will vary between short written assignments and practical hands-on work with healthcare information.
Quizzes	20%	5 graded quizzes.
Discussions	15%	5 facilitated informatics discussions.
Final Exam	20%	Two hour online, proctored final exam.
Class Project	25%	Outline and 8 – 15 pages plus live presentation to the teaching team.

Letter Grade

The final letter grade in the course will correspond approximately with the following numeric grade range:

A	≥ 94
A−	≥ 90 < 94
B+	≥ 86 < 90
B	≥ 81 < 86
B−	≥ 76 < 81
C+	≥ 71 < 76
C	≥ 66 < 71
C−	≥ 61 < 66
D	≥ 56 < 61
F	< 56

Course Policies

Assignment and Quiz Completion & Late Work

Because of the fast pace of this course, strict following of deadlines is crucial. Each 24-hour delay will result in a 5% penalty unless:

- Students receive one "pass" for no deduction for a maximum of a one-week delay in submitting an assignment or completing a quiz with approval from your facilitator or the professor.
- There are approved mitigating circumstances which includes the one late assignment submission “pass” described elsewhere. In case of an emergency, students are required if at all possible to contact their facilitators or the professor BEFORE the deadline and discuss their situation. In the case of serious or emergency situations, or if, for any reason, you are unable to meet any deadline, contact your facilitator or the professor as soon as possible.

Several other policies are in place for course submissions.

- Assignments submitted or quizzes completed late near the end of the term may not be graded, because our facilitators are very busy grading course projects and the final exam, resulting in a zero score for those assignments.
- Class projects need to be submitted by the due date and presented per the schedule that will be given out during the course
- If you are stuck, and just can't complete part of an assignment, then submit what you can complete to your facilitator, asking for help. Your facilitator may then choose to provide you with guidance in the areas where you are stuck and return the partial assignment to you for further work and resubmission. Your facilitator will deduct from your score on the resubmission for any portion of the solution that your facilitator provided to help you. Your professor authorizes the facilitators to re-grade based on resubmissions. Whether a particular resubmission should be re-graded is up to the judgment of the facilitator or the professor. Resubmissions are intended to help struggling students who are stuck. Resubmissions are not intended for routine use.
- The course follows the MET Academic Status policies which can be reviewed.

Artificial Intelligence and Generative AI (GenAI)

Artificial Intelligence (AI) and machine learning including generative artificial intelligence (GenAI) are increasingly available and accessible. These technologies are having substantial impact on both academics, the use of HIS/EHRs, and in the professional world generally. In recognition of this increased adoption, this course allows the use of GenAI per the following policies. This approval is given to help you to become familiar with AI tools, to increase your AI literacy, and to understand how to use AI in appropriate ways within both academic and professional contexts.

- You may use one or more GenAI tools for this class for all assignments, quizzes, and discussion posts.
- In all cases, as with any source you use, you are required to cite your use of GenAI or a similar tool and show the prompt(s) you used.
- If you do not provide attribution and we find out that you used an AI tool, you will receive an automatic zero on that assignment, quiz, or course project. Note that the quizzes have a time limit, and the professor does not believe that using GenAI will be that helpful completing quizzes or discussion posts.

The Final Exam is closed book including not allowing use of the Internet, so you are NOT allowed to use any AI tools for the Final Exam.

ChatGPT and other GenAI and automated content tools are known to return incomplete, incorrect, and/or biased information, along with fake citations or sources. Therefore, they and are not considered a completely reliable resource. It is the student’s responsibility to ensure that all information is accurate.

Many GenAI tools, such as ChatGPT, require that you supply personal information, such as an email address. Please review the privacy information supplied by the tool so that you are aware of the uses of your information. As your instructors, the facilitators/teaching assistants and I abide by FERPA (Family Educational

Rights and Privacy Act) Guidelines and will not create or respond (for example, through feedback or grades) to assignments in any way that will impact the privacy of your student records.

Discussion Grading Rubric

The discussion grading rubric below is the guide we use to evaluate your discussion contributions.

Criteria	65–69	70–79	80–89	90–94	95–100
Participation	Very limited participation	Participation generally lacks frequency or relevance	Reasonably useful relevant participation during the discussion period	Frequently relevant and consistent participation throughout the discussion period	Continually relevant and consistent participation throughout the discussion period
Community	Mostly indifferent to discussion	Little effort to keep discussions going or provide help	Reasonable effort to respond thoughtfully, provide help, and/or keep discussions going	Often responds thoughtfully in a way that frequently keeps discussions going and provides help	Continually responds thoughtfully in a way that consistently keeps discussions going and provides help
Content	No useful, on-topic, or interesting information, ideas, or analysis	Hardly any useful, on-topic, or interesting information, ideas, or analysis	Reasonably useful, on-topic, and interesting information, ideas, and/or analysis	Frequently useful, on-topic, and interesting information, ideas, and analysis	Exceptionally useful, on-topic, and interesting information, ideas, and analysis

Reflection and Synthesis	No significant effort to clarify, summarize, or synthesize topics raised in discussions	Contributes to group's effort to clarify, summarize, or synthesize topics raised in discussions	Leads group's effort to clarify, summarize, or synthesize topics raised in discussions

Quiz Instructions

Accessing Quizzes

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.

Quiz Details

- All five quizzes have 10-20 questions. You can access the quiz details from the assessments section.
- Quizzes may be a combination of true/false, multiple choice, multiple answer, matching, short written answer, or short written essay questions.
- All questions are 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.
- You will have 90 minutes to complete the quiz. You should have enough time so that you aren't rushed.
- You can take each graded quiz only once.
- You may not pause the quiz and return to it later.
- 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.

Saving Your 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.

The Quiz Comment Questions

There is one short answer question at the end of each quiz and the final exam. This *comment question* appears as a quiz question, but there are no points for this item. Use this as a place to provide feedback about the quiz as a whole or to comment upon a particular quiz question, the way that you might write comments in the margins of a paper quiz. Be sure to reference the question number because question order is randomized. Your facilitator will examine your comments and determine whether a grade adjustment or other action is appropriate.

> If a technical issue of any kind arises during the exam, complete the exam, answering the remaining questions, and then contact your facilitator or instructor immediately.

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

Boston University Metropolitan College