**Course Description (TAB #1)**

SYLLABUS  
Course Description

This [module](https://onlinecampus.bu.edu/bbcswebdav/pid-705869-dt-content-rid-1524759_1/courses/13sprgmetcs682_el/syllabus/allpages.htm) is also available as a concatenated page, suitable for printing or saving as a PDF for Sssss

**MET CS 682  
Information Systems Analysis and Design**

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| This text will be replaced with: met\_cs682\_10\_fa2\_ebraude\_w00 |
| [[https://onlinecampus.bu.edu/bbcswebdav/courses/00cwr_odeelements/course_template_images/icon_download.png](http://www.bu.edu/av/disted/met/cis/cs682/downloadable/met_cs682_10_fa2_ebraude_w00.mp4)Download](http://www.bu.edu/av/disted/met/cis/cs682/downloadable/met_cs682_10_fa2_ebraude_w00.mp4) (See SyllabusBraudeIntro) |

This course describes modern methods of information system analysis and design for organizations with IT resources. It introduces the discovery process for system feasibility, describes stakeholder analysis, and covers requirements analysis. The course explains use cases and their application to requirements analysis. It covers the management of system analysis projects and risks. “Build vs. buy” trade-offs are discussed. The Unified Modeling Language for specifying object-oriented system designs is discussed. Data flow diagrams and activity models are integrated with the analysis and design coverage. The course covers most of the fundamental system architectures, as well as approaches to detailed design.

**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.

Tab #2

Course Objectives

**Course Objectives and Learning Goals (TAB #2)**

This course is designed to enable you to do the following

* Discriminate among types of business systems
* Explain and summarize a proposed systems analysis project
* Assess and critique the issues of working in a team
* Distinguish between system-level and low-level requirements
* Distinguish between architectural and detailed designs
* Rank the goals of good system design
* Understand UML models

By reading the lectures and completing the assignments in this course, you will be able to:

* Better predict and deal with risks
* Plan and design a project schedule
* Develop written functional and non-functional requirements
* Create written use cases and scenarios
* Integrate the use of classes in Object-Orientation
* Relate one class to another through inheritance, aggregation and association
* Create sequence diagrams and other UML diagrams
* Construct system architectures and detailed designs

Tab #3

Week by Week Topics

**Week-by-week Topics (TAB #3)**

**Module #1 (Weeks #1 & #2) — Introduction and Process**

* Types of business systems
* Participants in systems analysis
* A systems analysis example
* Introduction to system process
* Development process alternatives
* Requirements, design and quality assurance
* Configuration management

**Module #2 (Weeks #3 & #4) — System Development Processes, Risk and System Design Trade-offs**

* System development project management
* Formal and agile processes, their advantages and disadvantages
* Team inter-personnel issues
* Risk management
* Project scheduling
* Organizational structures
* Legacy applications
* Agile approaches
* Team Software Process

**Module #3 (Weeks #5 & #6) — System and Requirements Analysis**

* The meaning of “requirements”
* System-level requirements
* Detailed requirements
* Functional requirements
* Non-functional requirements
* Techniques for interviewing and documenting requirements
* Introduction to design of user interfaces
* Introduction to use cases, data flow diagrams, state transition diagrams

**Module #4 (Weeks #7 & #8) — Modeling with UML**

* Classes
* Class relationships
* More on use cases
* An example of using UML
* Sequence diagrams
* State models
* Activity diagrams

**Module #5 (Weeks #9 & #10) — System Architectures**

* Design purposes
* Software frameworks
* More on data flow diagrams
* ATAM Design and Tradeoffs
* Categorizing system architectures
* Component technology

**Module #6 (Weeks #11, #12 & #13) — Object-Oriented Designs**

* Design in the Unified Development Process
* Designing against component interfaces
* Specifying classes and functions for design
* Software reuse
* Detailed sequence diagrams and data flow diagrams
* Software reuse
* Standards for detailed design
* Estimating cost of software

**Module #7 (Week #14) — Final Exam**

**Weekly Activities (TAC #4)**

Each week you will need to:

* Read the online lectures
* Read recommended pages in the textbook (listed below)
* Participate in the discussion topics. This includes submitting your own comments and reading submissions from other students.
* Complete the homework assignment(s)

**Dates and Deadlines**

* Each week of this course starts on a Thursday
* Discussions should start no later than Monday of each week
* Discussions and written assignments are all due each week by Thursday at 5:00 AM ET
* University or other holidays do not affect these due dates

**Instructor Biography (TAB #5)**

Angelo Guadagno

Computer Science Department                                           
Metropolitan College  
Boston University  
808 Commonwealth Ave.  
Boston, MA 02215

**Contacting Angelo Guadagno**  
Stay in contact with Angelo Guadagno by means of the following.

* E-mail – [angelo0527@gmail.com](mailto:angelo0527@gmail.com) or angelog1@bu.edu
* Before or After the Weekly Classroom Sessions
* Telephone contact - Normally I am available at 617-283-6680 (cell). If not, you can leave a voice message or contact me via email.

Mr. Guadagno has over 30 years of experience in the electronics industry and has served in executive management, senior sale and marketing, and engineering positions. He has been involved in a variety of consulting assignments both for venture capital groups and with small and medium size companies. His BOD experience includes Savior Technology, Finale Inc., Ezworkplace Inc., Asic Alliance and Site Technology. His corporate experience includes Data General Corp, Apollo Computer and Digital Equipment Corp.

He holds an MBA from Babson College, a M.S. in Math from Villanova University, a B.S. in Electrical Engineering also from Villanova University and is currently the President and CEO of Assertive Design Inc., an EDA software company supplying software tools to design engineers of large, complex ASICS

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Tab #6 Study Guide

**Study Guide (TAB #6)**

|  |  |  |
| --- | --- | --- |
| **Module 1 Study Guide and Deliverables** | | |
| **Readings:** | | Online lectures Whitten & Bentley, Primary: 6–16, and 30–33. Secondary: pages 4–65**Chapters #1 & #2, Dates 1/16 & 1/23** |
| **On Campus Meetings:** | | Meet on January 16 from 6:00 PM to 9:00 PM in Bldg. FLR, Room 134, **Class = Chapter #1** |
| **Discussions:** | | Discussion 1 postings due January 30 at 6:00 AM ET |
| **Assignments:** | | Assignment 1 due January 30 at 6:00 AM ET |
| **Module 2 Study Guide and Deliverables** | | |
| **Readings:** | Online lectures Whitten & Bentley: Primary reading: pp 89–93 and 123-124, Secondary: pages 67–155  **Chapters #3 & #4, Dates 1/30 & 2/6** | |
| **Discussions:** | Discussion 2 postings due February 13 at 6:00 AM ET | |
| **Assignments:** | Assignment 2 due February 13 at 6:00 AM ET | |

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| **Module 3 Study Guide and Deliverables** | |
| **Readings:** | Online lectures Whitten & Bentley: Primary: pages 208–214, 246–247, and 259–260 Secondary: pages 206–267 **Chapter #6 & #7, Dates 2/13 & 2/20** |
| **On Campus Meetings:** | Meet on Feb 13 from 6:00 PM to 9:00 PM in Bldg. FLR, Room 134 **Class = Chapter #6** |
| **Discussions:** | Discussion 3 postings due February 27 at 6:00 AM ET |
| **Assignments:** | Assignment 3 due February 27 at 6:00 AM ET |
| **Module 4 Study Guide and Deliverables** | | |
| **Readings:** | Online lectures Whitten & Bentley, Primary: pages 316–318, 329, 371–380, and 392–395 Secondary: Chapters 9 and 10 **Chapters #9 & #10, Dates 2/27 & 3/6** | |
| **On Campus Meetings:** | Meet on March 20 from 6:00 PM to 9:00 PM in Bldg. FLR, Room 134 **Class = Chapter #12** | |
| **Discussions:** | Discussion 4 postings due March 20 at 6:00 AM ET | |
| **Assignments:** | Assignment 4 due March 20 at 6:00 AM ET | |

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| **Module 5 Study Guide and Deliverables** | | |
| **Readings:** | Online lectures  Whitten & Bentley: Primary pages 445-467 (Most of this material is not covered in the notes) Secondary: 468–515 (This material serves as backup to, and gives another perspective on the topics in these notes) **Chapters #12 & #13, Dates 3/20 & 3/27** | |
| **Discussions:** | Discussion 5 postings due April 10 at 6:00 AM ET | |
| **Assignments:** | Assignment 5 due April 10 at 6:00 AM ET | |
| **Module 6 Study Guide and Deliverables** | | | |
| **Readings:** | | Online lectures Whitten & Bentley, pages 646–679 **Chapter #18, Dates 4/10 & 4/17** | |
| **On Campus Meetings:** | | Meet on May 1 from 6:00 PM to 9:00 PM in Bldg. FLR, Room 134  **Class = Chapter #18** | |
| **Discussions:** | | Discussion 6 postings due May 2 at 6:00 AM ET | |
| **Assignments:** | | Assignment 6 due May 1 at 6:00 AM ET | |

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| --- | --- |
| **Module 7 Study Guide and Deliverables** | |
| **Readings:** | None |
| **Discussions:** | None |
| **Assignments:** | The final exam take home should be submitted in the Assignments section of BlackboardLearn by May 9 at 6:00 PM. You will take your Final Exam in Bldg FLR, Room 134  on May 8 at 6:00 PM |

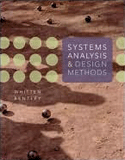
**Final Exam Details**

The Final Exam is a proctored exam. The Computer Science department requires that all final exams be proctored.

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.

**Course Resources (TAB #7)**

**Required Course Textbook**

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|  |  |
| --- | --- |
|  | Whitten, J. L. & Bentley, L. D. (2007). *Systems Analysis and Design Methods*(7th ed.). McGraw-Hill/Irwin. |

**Textbook Notes**

Make very sure that you are getting the 7th edition.

The textbook for this course can be purchased from Barnes & Noble at Boston University.

McGraw-Hill/Irwin provides an online learning center associated with this text. It does not replace the textbook. Your assignments for this course will be based on the printed version of the textbook. However, you might find it useful to review the case studies, practice quizzes and PowerPoint presentations available for each chapter of the textbook.

**Supplemental Material**

You will find a section with supplemental material on the CS 682 Online Campus course homepage.

**Other Resources**

For definitions and terms, and for pointing you to references, Wikipedia can sometimes be useful. However, remember that information at Wikipedia is erratically curated, and entries have been manipulated by a variety of people for a variety of reasons. You are free to use Wikipedia as a starting point and as a source of pointers to higher-quality information, but avoid citing Wikipedia (or similar sources that have not been reviewed professionally for veracity) as authorities.

The UML specifications are at www.omg.org/technology/documents/formal/uml.htm (but you will find them very dense and formal indeed).

We will use Visio in this course for UML. However, you are free to use other tools if you wish.

**Boston University Library Link**

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

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

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

# MSDNAA and Visio Tool (TAB #8)

In this class you will use Visio Professional to create UML diagrams (you may use another tool if you wish). You can obtain Visio Professional and many other types of Microsoft software free of charge from the Microsoft Developer Network Academic Alliance (MSDNAA) Program, which allows faculty, graduate and undergraduate students currently enrolled in MET courses to obtain certain Microsoft products free of charge.

You can obtain many types of Microsoft software free of charge from the Microsoft Developer Network Academic Alliance (MSDNAA) Program. By the first day of class your instructor will submit your BU email address to Microsoft to enroll you in the program for the current semester. You will receive an email from the MSDNAA E-Academy License Management System (ELMS) from the address: [elms\_support@e-academy.com](https://onlinecampus.bu.edu/bbcswebdav/pid-705877-dt-content-rid-1524768_1/courses/13sprgmetcs682_el/syllabus/syllabus/mailto:elms_support@e-academy.com).

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

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

If you do not receive your email by the end of the first week, first check your junk email folder and then please follow the instructions at<http://www.bu.edu/metit/hw-and-sw/msdn-academic-alliance-software-center>

# Evaluation of Students and Grading (TAB #9)

Absorbing and creating IT perspectives will be expected of all students in the class. To attain excellence ("A" work), you will be expected to develop your own analyses and comparisons.

**Basis for Grades**

There are four components to your grades.

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. These are counted equally.

1. **Discussions**

You will learn a great deal by interacting with the other students in the class, and your grade is dependent on this activity to some extent.

1. **Quizzes**

These are straightforward questions intended to help you with the weekly assignments and associated subject matter.

1. **Final**

There will be a three-hour final exam which is similar in format 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.

**Grade Computations**

The course grade will be computed from the following:

|  |  |
| --- | --- |
| Weekly Assignments | 50% |
| Discussions | 15% |
| Quizzes | 5% |
| Proctored Final Exam | 30% |

**Evaluation Criteria and Grading Rubric**

The project phases are graded according to the evaluation matrices on pages that follow. These are averaged using A=95, A-=93, B+=87, B=85 etc.

To get an A grade for the course, your weighted average should be >93. A-:>=90. B+:>=87. B:>83. B-:>=80 etc.

The quiz grades are Acceptably on track (1), Not yet acceptably on track (0). Otherwise:  
>=5 ” Acceptably...”: A  
>=4 ” Acceptably...”:: B  
>=3 ” Acceptably...”:: C  
.=1 ” Acceptably...”:: D  
None ”meets ...”:: F

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, of course.) If you don't see such feedback, please remind your facilitator about it. 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 course average turns out to be less than this at the end of the term, and the class performance is not less than average, I am able to elevate some grades that fall on borderlines.

# Grading Criteria for Homework (TAB #10)

Unless otherwise specified, homework will be evaluated according to the following criteria.

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| --- | --- | --- | --- | --- | --- | --- |
|  | **D** | **C-** | **C+** | **B-** | **B+** | **A** |
| **Clarity** | Disorganized or hard-to-understand | | Satisfactory but some parts of the submission are disorganized or hard to understand | Generally organized and clear | Very clear, organized and persuasive presentation of ideas and designs | Exceptionally clear, organized and persuasive presentation of ideas and designs |
| **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 |
| **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 |
| **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 |
| **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 |

**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 facilitator. 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. Additional documentation may be requested. 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.

**Final Exam Information (TAB #11)**

**How do I access the exam?**

You will not have access to the exam until you are in a proctored facility (either through ProctorCam or testing center). The Final Exam is password protected and will appear in the Assessment icon and the final exam module.

**Note**

A page instructing how to schedule your proctored final exam will be visible by the third week of this course.

**How much time will I have?**

The proctored final is three hours. Also note:

* You can take this exam only once.
* You cannot save answers to questions after the allotted time has expired; you can only submit the exam with the previously saved answers.

**Important Note**

As you are working on the exam, we recommend that you save your answer every few minutes to prevent loss of data due to an unexpected technical problem. You can continue to edit your saved answers until you submit the exam for grading.

**What should I bring? What may I refer to during the exam?**

* You may bring your textbook and any printed notes, but nothing electronic.
* During your exam you are not allowed to access any electronic devices or external web pages—this includes web pages within your course. You may not bring USB drives, CD-ROMs, phones, iPods, laptops or any digital media to the exam. Once you have accessed your exam, you may not access any other web page.

**What is the format of the exam?**

* All questions are randomized.
* Each question is weighted; an approximate percentage value is noted.
* The exam questions will display one at a time on your screen.

**What is the procedure for answering questions?**

* 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.

**Technical Support**

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

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

**Questions**

Please, see your proctor if you have any questions.

Good Luck!

# Discussion Participation (TAB # 12)

The discussions focus only on the lecture material and associated readings in the textbook for that week and on relating them to real life. 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:**

* Clarify the cited section
* Respond with substance to a posting on the cited section (It's also good to provide feedback, complements, or just “I agree” even though non-substantive posts are not related to your grade)
* Relate the lecture material and the textbook
* 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 an insightful question about the cited section

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 should be a straightforward way for you to keep your discussion grade in reasonable territory.)

**(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 computing this, we will ignore postings that are obviously not intended to contain content. For example, it's a good thing to complement another student on a useful post and a simple complement does not affect this grade.

Extensive quoted material that can be read from the Internet will fare poorly in this category 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 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.

**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 facilitator. 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. Additional documentation may be requested. 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.

# Academic Conduct Policy (BU policy available on line) (TAB #13)

# Important Message on Final Exams (BU policy available on line) (TAB #14)

# Who's Who - Roles and Responsibilities (TAB #15)