**CIS 9490 Information Systems Design and Development**

**Zicklin School Of Business  
New York, NY**

**Semester:** Spring 2023 (UTA)

**Instructor:** Michael Feldman

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**Course Description:**

Organizations depend on computer information systems and technology to operate efficiently. This course first instructs students in current methods of analyzing business situations and systems to model complete and coherent definitions of systems requirements. Next, learning focuses on methods for developing logical and physical designs of these systems. Finally, these designs form the bases of systems development and implementation. The course emphasizes software engineering best practices in creating robust, reliable and appropriate systems regardless of technology, size, scope, type and geographic distribution.

**Course Student Outcomes:**

Upon successful completion of this course, students will be able to:

* Describe major methodologies used in developing information systems and the considerations in choosing which methodology to use.
* Produce the requisite systems documentation at each point in the analysis and design of an information system with clarity and completeness.
* Analyze a business need of information and to develop an appropriate strategy to solve the problem and provide the required information service.
* Prepare and use various information gathering techniques for eliciting user information requirements.
* Construct and interpret a variety of system description documents including physical and logical data flow diagrams, entity-relationship diagrams, structure charts and decision tables as well as screen, form and report layouts.
* Communicate effectively in both written and oral forms, systems specification and to be persuasive in these presentations.

**Text:**

*None*

**Weekly Schedule: (UTA). Class will be held online via Zoom on Tuesday night from 6:05pm-9:00pm. Zoom information will be provided on Blackboard.**

**Assessment:**

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| **Class Assignments** | **25%** |
| **Midterm** | **25%** |
| **Final Project** | **25%** |
| **Final exam** | **25%** |

**Course Policies:**

**Policy on Student Class Behavior**

Learning in a class is the responsibility of the student. The student must attend class, complete assignments, take tests, and seek help when needed. It is the job of the professor to guide the learning process through lectures, assignments, and evaluation of student work. But learning cannot occur without the active participation of the student both in and outside of class. In class, students are expected to talk and participate when it is appropriate to do so and to be respectful to faculty and fellow students, when they are speaking or working. In addition, students are expected to turn off their cell phones and beepers prior to the start of the class.

Students who disrupt class or who prevent others from participating in classroom activities may be subject to removal from class and other University disciplinary action.

**Academic Honesty**

Students must accept the responsibility to be honest and to request ethical standards in meeting their academic requirements. It is unethical to plagiarize, to cheat on an examination, or to turn in work that is not yours. That means you CANNOT COPY WORK FROM SOMEONE ELSE OR PRINT TWO COPIES OF THE SAME ASSIGNMENT TO BE HANDED IN BY TWO INDIVIDUALS. Each student must do his/her own work. Students who fail to meet the responsibility for academic integrity will be given a zero on the assignment/exam/project they were caught cheating on. It is easy for an instructor to tell when data has been duplicated between students. All instructors reserve the right to challenge work they feel has not been completed independently. Offenders will be subject to disciplinary action as well. Copying external sources into your document without proper footnotes/references is plagiarism and we not be tolerated.

**Disability statement**

Baruch has a continuing commitment to providing reasonable accommodations for students with disabilities. Like so many things this fall, the need for accommodations and the process for arranging them have been altered by COVID-19 and the safety protocols currently in place. Students with disabilities who may need some accommodation in order to fully participate in this class should contact Student Disabilty Services as soon as possible at [disability.services@baruch.cuny.edu](mailto:disability.services@baruch.cuny.edu)

**Religious Accommodations**

**A. Requests for Accommodations**

1. Students requesting a religious accommodation should contact the Office for Student Affairs at the College or unit in which they are enrolled. The Chief Student Affairs Officer, or a designee, and the student will engage in an interactive process with the goal of finding an acceptable accommodation.

2. Consistent with New York State Education Law § 224-a, students who are absent from school because of a religious belief will be given the equivalent opportunity, without any additional fee charged, to register for classes or make up any examination, study or work requirements missed because of such absence on any particular day or days.

3. Employees and applicants requesting a religious accommodation should contact the Office of Human Resources at the College or unit where they are employed or applying. The Director of Human Resources, or a designee, and the employee/applicant will engage in an interactive process with the goal of finding an acceptable accommodation. Classified civil service candidates who are required to take an exam or attend a hiring pool and are seeking an accommodation should follow the written instructions provided on the exam application, hiring pool instructions, or contact the HR Advisory Services unit in the Office of Human Resources Management in the Central Office.

4. Individuals requesting accommodations may be required to submit an intake form. In the case of requests for religious accommodations, the interactive process may include a consideration of a variety of factors, such as the individual’s religious practices and the functions and requirements of the academic program or job. Reasonable accommodations may include, but are not limited to, flexible arrival and/or departure times, permission to make up a test or lecture, leave or assignment changes, time and/or space to pray, or an accommodation relating to appearance or dress.

5. CUNY generally will not question that a request for religious accommodation is based on a sincerely held belief. However, if CUNY has genuine reason to doubt that a belief qualifies as religious, or is sincerely held, CUNY may make a limited inquiry, asking for supporting documentation. The documentation submitted may include the requestor’s first-hand explanation, or explanations from others, such as a religious official or clergy member, who are aware of the religious practice or belief.

6. A grant or denial of the request must be made in as soon as practicable, taking into account the urgency of the request, and sent in writing to the individual making the request, either stating the accommodation, or for denials, the reason(s) the request was denied.

**B. Appeals**

Students, employees, and applicants may appeal a denial of their accommodation request by filing a complaint with the Chief Diversity Officer at their College or unit. The Chief Diversity Officer, or a designee, will mediate to try to resolve the issues between the individual and the College to find an acceptable accommodation. If a mutually acceptable accommodation cannot be determined, then the Chief Diversity Officer, or a designee, will investigate the complaint and make a recommendation to the College President, or if the employee works at the Central Office, then to the Vice Chancellor for Human Resources Management. The College President or Vice Chancellor for Human Resources Management will make the final determination concerning the complaint.If the employee is covered by a collective bargaining agreement, the employee may discuss the matter with a union representative and exercise any rights available under such agreement.

**Converting Your Numerical Grade to a Letter Grade**

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| --- | --- | --- |
| **Letter Grades and Grade Point Equivalents** | | |
| A | 4.0 | 93.0-100.0 |
| A- | 3.7 | 90.0-92.9 |
| B+ | 3.3 | 87.1-89.9 |
| B | 3.0 | 83.0-87.0 |
| B- | 2.7 | 80.0-82.9 |
| C+ | 2.3 | 77.1-79.9 |
| C | 2.0 | 73.0-77.0 |
| C- | 1.7 | 70.0-72.9 |
| F | 0.0 | below 70.0 |

Weekly schedule:

Class 1 – Introduction (Tuesday, January 31th, 2023)

1. Meet and greet
2. Introduction to Business analysis
3. Business analysis topics
4. Case studies

Class 2 - Scope ((Tuesday, February 7th, 2023)

1. Introduction to scope
2. Understanding the impact of scope
3. “Scope creep kills projects”
4. The scope document
5. Risks
6. Constraints
7. The triple constraint

Class 3 -Business functions and processes/decomposition (Tuesday, February 14th, 2023)

1. Introduction to business process
2. Functions, processes, and activities
3. “Decomposing” an organization and the decomposition diagram
4. Using Visio for diagramming
5. Building a decomposition diagram

Tuesday, February 21 – Monday schedule. No class

Class 4 - Business Requirements (Tuesday, February 28th, 2023)

1. What are business requirements?
2. Going from a decomposition document to requirements
3. Understanding a business requirements document
4. Functional vs. non-functional requirements
5. Building a BRD
6. The iterative nature of business analysis
7. Stabilizing requirements

Class 5 - Work Flow, Activities and UML (Tuesday, March 7th, 2023)

1. Introduction to UML
2. Review of processes/functions
3. What is an activity?
4. Building an activity diagram
5. Swim lane diagrams

Class 6- Understanding Data (Tuesday, March 14th, 2023)

1. Pre-relational database types
2. Relational databases
3. Normalization and the three levels of normalization
4. Master Data; child data; reference data
5. Working with relational databases

**Class 7- Midterm (**Tuesday, March 21st , 2023**)**

Class 8 – Data Modeling (Tuesday, March 28th , 2023)

1. What is data modeling?
2. Entity relationship diagrams (ERD)
3. Relationships and cardinality
4. Building an ERD
5. Superclass/subclass
6. Composite vs surrogate keys

Class 9- Transitioning to Design (Tuesday, April 4th , 2023)

1. What is design?
2. What are tiers?
3. Prototypes/screen design
4. UI vs UX
5. Building our first UI
6. Other aspects of design

Spring recess April 5th - April 13th

Class 10- Navigational experience and Use Cases (Tuesday, April 18th , 2023)

1. What is user experience?
2. Navigation and menus
3. Edit charts
4. Access charts
5. Control screens
6. Building out a navigational experience
7. Building a use case diagram (extends, include, associate)
8. Building use case statements
9. Use case statement extensions

Class 11- Application testing /User Interview (Tuesday, April 25th , 2023)

1. What is application testing?
2. Why and what do we test?
3. The different types of testing
4. User interviews
5. How are user interviews conducted?
6. Parking lots
7. Live example: an interview role play

Class 12 Methodology (Tuesday, May 2nd , 2023)

1. What is a methodology and why is it necessary?
2. Waterfall
3. The Agile Manifesto
4. Agile principles
5. Agile hierarchy of concepts and planning
6. Agile points and velocity
7. Sprints and scrums
8. Fred Brooks and the Project lifecycle

Class 13 – Agile Workshop (Tuesday, May 9th  , 2023)

1. An interactive class to build a:
   1. Project backlog
   2. Sprint backlog
   3. Story points
   4. Burn rates
   5. timeline

**Final Project due: Friday May 12, 2023**

Class 14 - Thinking in Objects (Tuesday, May 16th  , 2023)

1. Object oriented business analysis
2. OO analysis and design
3. Relationships
4. UML class diagrams

**FINAL EXAM (Date/Time TBD)**