ESSEX COUNTY COLLEGE

MATHEMATICS, ENGINEERING TECHNOLOGIES & COMPUTER SCIENCES DIVISION

CIS 212 – 0LI
SYSTEMS ANALYSIS AND DESIGN
Spring 2023

Instructor: Prof. Tori

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Regular Office Hours:

Tue: 11:30 – 2:20 pm

Thu: 5:00 – 6:30 pm

Virtual Office Hours:

Tue: 5:30 – 7:00 pm **(Via Zoom)**

Office Hours by Appointment:

Thu: 4:00 – 5:00 pm

Class Modality:

This course will be conducted entirely ONLINE, from January 9 to April 27, 2023.

Prerequisites: CIS 131

Textbook and Supplies:

- **Systems Analysis and with MindTap Access Code** - 11th Edition
  Author(s): Gary B. Shelly, Harry J. Rosenblatt
  Publisher: Cengage Learning
- **Computer Headphones**

NOTE: This course uses an online textbook and other materials that are built directly into your course. This means that you do not need to buy the textbook. An online content fee is added to your tuition at the time of registration.

Course Description: This course gives an overview of the system development life cycle covering information gathering and reporting activities from the analysis phase through the maintenance and support phase. The course introduces the classical and structural tools/techniques for describing processes, data flows, data structures, file and database design, input/output design and program specifications.

Course Goals: Upon successful completion of this course, students should be able to do the following:

1. describe and implement a practical approach to systems analysis and design using a blend of traditional development and current technologies;

2. describe the system's development life cycle; and
3. explain how information systems support business requirements in today's intensely competitive environment.

Course Requirements: All students are required to:

1. Maintain regular attendance.
2. Complete all assigned work on time.
3. Take all tests and final exam as scheduled.

Course Material: Many ECC courses use online course materials rather than traditional textbooks. Online courses use online textbooks and other materials that are built directly into your course. This means that you do not need to buy a textbook for an online content course. An online content fee is added to your tuition at the time of registration.

Methods of Instruction: Instruction will consist of lectures, assignments, and class discussions.

Course Requirements: All students are required to:

1. Maintain regular attendance.
2. Complete assigned work.
3. Take all tests and the final exam as scheduled.
4. **NO MAKE-UP EXAMS ARE ALLOWED.**
5. Students are responsible for class notes, assignments and other information presented in their absence. The instructor is not required to re-teach the concepts you missed, nor should you expect it. Being absent when an assignment is due is not an acceptable excuse for missing the assignment due date.

Grading:

Your final grade will be based on your performance on the following:

Discussions & Readings. 15%
Cases 20%
Assignments 20%
Exams 45%

Teaching Methods:

1. **Assignments**: End of chapter activities will be assigned to reinforce material learned in the assigned readings and videos. The Discussions, Assignments, Readings, and Cases will be due at 11:59 p.m. on the date specified in the schedule.
2. **Exams**: You are required to take four exams. Each exam consists of multiple-choice questions. There is a time limit for taking each exam. The exams will test assigned online readings and videos. The exams will be due at 11:59 p.m. on the date specified in the schedule. ***No make-up exams are allowed.***

Academic Integrity: Dishonesty disrupts the search for truth that is inherent in the learning process and so devalues the purpose and the mission of the College. Academic dishonesty includes, but is not limited to, the following:

- plagiarism – the failure to acknowledge another writer's words or ideas or to give proper credit to sources of information;
- cheating – knowingly obtaining or giving unauthorized information on any test/exam or any other academic assignment;
- interference – any interruption of the academic process that prevents others from the proper engagement in learning or teaching; and
- fraud – any act or instance of willful deceit or trickery.

Violations of academic integrity will be dealt with by imposing appropriate sanctions. Sanctions for acts of academic dishonesty could include the resubmission of an assignment, failure of the test/exam, failure in the course, probation, suspension from the College, and even expulsion from the College.

Student Code of Conduct: All students are expected to conduct themselves as responsible and considerate adults who respect the rights of others. ***Disruptive behavior will not be tolerated.*** All students are also expected to attend and be on time all class meetings. No cell phones or similar electronic devices are permitted in class. Please refer to the Essex County College student handbook, *Lifeline*, for more specific information about the College's Code of Conduct and attendance requirements.

Differently abled Support Services: Essex County College welcomes students with disabilities into all of the college's educational programs. It is the policy and practice of Essex County College to promote inclusive learning environments. If you have a documented disability, you may be eligible for reasonable accommodations in compliance with college policy, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and/or the New Jersey Law Against Discrimination. Please note, students are not permitted to negotiate accommodations directly with Professors, Academic Chairpersons, and Deans. To request accommodations or assistance, please self-identify with the Office of Differently abled Support Services. The office is located at the Student Development and Counseling Department at the Main Campus in Room 4122I, and on Tuesdays at West Essex Campus' Advisement Center. Contact us by telephone at 973-877-3071 or by email at *disability@essex.edu*.

Course Content Outline: based on the text based on the text ***Systems Analysis and Design, 11th edition***, by Shelly, Rosenblatt; published by Cengage Learning; ISBN: 9781305945241

Week	Chapter/Section
	PHASE 1: SYSTEMS PLANNING
1 – 2	**Chapter 1: Introduction to Systems Analysis and Design**
	1.2 What Is Information Technology?
	1.2.1 The Changing Nature of Information Technology
	1.2.2 Systems Analysis and Design
	1.2.3 What Does a Systems Analyst Do?
	1.3 Information System Components
	1.3.1 Hardware
	1.3.2 Software
	1.3.3 Data
	1.3.4 Processes
	1.3.5 People
	1.4 Business Today
	1.4.1 The Internet Model
	1.4.2 B2C (Business-to-Consumer)
	1.4.3 B2B (Business-to-Business)
	1.7 What Information Do Users Need?
	1.9 Systems Development Methods
	1.9.1 Structured Analysis (SDLC)
	1.10 The Information Technology Department
	1.10.1 Application Development
	1.10.2 Systems Support & Security
	1.10.3 User Support
	1.10.4 Database Administration
	1.10.5 Network Administration
	1.10.6 Web Support
	1.10.7 Quality Assurance
	1.11 The Systems Analyst
	1.11.1 Role
	1.11.2 Knowledge, Skills, and Education
	1.11.4 Career Opportunities
3 - 4	**Chapter 2: Analyzing the business case**
	2.1 Introduction
	2.2 A framework for IT systems development
	2.2.1 Strategic planning overview
	2.2.2 What is SWOT analysis?
	2.2.3 Strategic Planning for IT Projects
	2.3 What is a Business Case?

WEEK	CHAPTER/SECTION
	2.4 Information Systems Projects
	2.4.1 Main Reasons for Systems Projects
	2.4.2 Factors that affect Systems Projects
	2.5 Evaluation of System Requirements
	2.6 Overview of feasibility
	2.6.1 Operational feasibility
	2.6.2 Economic feasibility
	2.6.3 Technical feasibility
	2.6.4 Schedule feasibility
	2.9 Preliminary Investigation Overview
	2.9.1 Interaction with Managers, Users, and Other Stakeholders
	2.9.2 Planning the Preliminary Investigation
	Exam 1 on Chapters 1 and 2
	PHASE 2: SYSTEMS ANALYSIS
5 - 6	**Chapter 4: Requirements Modeling**
	4.1 Introduction
	4.2 Systems Analysis Phase Overview
	4.2.1 Systems Analysis Activities
	4.2.2 Systems Analysis Skills
	4.3 Joint Application Development
	4.3.2 JAD Participants
	4.3.3 JAD Advantages & Disadvantages
	4.4 Rapid Application Development
	4.4.1 RAD Phases and Activities
	4.4.2 RAD Advantages and Disadvantages
	4.7 System Requirements Checklist
	4.7.1 Output Examples
	4.7.2 Input Examples
	4.7.3 Process Examples
	4.7.4 Performance Examples
	4.7.5 Control Examples
	4.9 Fact-Finding
	4.9.1 Fact-Finding Overview
	4.9.2 Who, What, Where, When, How, and Why?
	4.10 Interviews
	4.10.1 Unsuccessful Interviews
6 – 7	**Chapter 5: Data and Process Modeling**
	5.1 Introduction
	5.3 Data Flow Diagrams
	5.3.1 DFD Symbols
	5.6 Data Dictionary
	5.6.1 Using CASE Tools for Documentation

WEEK	CHAPTER/SECTION
	5.7 Process Description Tools
	5.7.3 Decision Tables
	5.7.4 Decision Trees
	Exam 2 on Chapters 4 and 5
8 – 9	**Chapter 7: Development Strategies**
	7.4 Outsourcing
	7.4.1 The Growth of Outsourcing
	7.4.2 Outsourcing Fees
	7.4.3 Outsourcing Issues and Concerns
	7.4.4 Offshore Outsourcing
	7.5 In-House Software Development Options
	7.5.1 Make or Buy Decision
	7.5.2 Developing Software In-House
	7.5.3 Purchasing a Software Package
	7.5.4 Customizing a Software Package
	7.8 The Software Acquisition Process
	Step 1: Evaluate the Information System Requirements
	Step 2: Identify Potential Vendors or Outsourcing Options
	Step 3: Evaluate the Alternatives
	Step 4: Perform Cost-Benefit Analysis
	Step 5: Prepare a Recommendation
	Step 6: Implement the Solution
	PHASE 3: SYSTEMS DESIGN
10	**Chapter 8: User Interface Design**
	8.3 Chapter Overview
	8.4 What Is a User Interface?
	8.6 Guidelines for User Interface Design
	8.6.1 Create an Interface That Is Easy to Learn and Use
	8.6.2 Enhance User Productivity
	8.6.3 Provide Users with Help and Feedback
	8.6.4 Create an Attractive Layout and Design
	8.6.5 Enhance the Interface
	8.6.6 Focus on Data Entry Screens
	8.8 Printed Output
	8.8.1 Overview of Report Design
	8.8.2 Types of Reports
	8.8.3 User Involvement
	8.8.4 Report Design Principles
	Exam 3 on Chapters 7 and 8

WEEK	CHAPTER/SECTION
11 - 12	**Chapter 10: System Architecture**
	10.1 Introduction
	10.2 Architecture Checklist
	10.2.1 Corporate Organization & Culture
	10.2.2 Enterprise Resource Planning
	10.2.3 Initial Cost and TCO
	10.3 System Architecture: Then and Now
	10.3.1 Mainframe Architecture
	10.3.2 Impact of the PC
	10.3.3 Network Evolution
	10.4 Client/Server Designs
	10.4.1 Overview
	10.4.2 The Client's Role
	10.4.3 Client/Server Tiers
	PHASE 4: SYSTEMS IMPLEMENTATION
13 – 14	**Chapter 11: Managing Systems Implementation**
	11.7 Coding
	11.7.1 Programming Environments
	11.8 Testing the System
	11.8.1 Unit Testing
	11.8.2 Integration Testing
	11.8.3 System Testing
	11.9 Documentation
	11.9.1 Program Documentation
	11.9.2 System Documentation
	11.9.3 Operations Documentation
	11.9.4 User Documentation
	11.9.5 Online Documentation
	11.15 System Changeover
	11.15.1 Direct Cutover
	11.15.2 Parallel Operation
	11.15.3 Pilot Operation
	11.15.4 Phased Operation
15	**Exam 4 on Chapters 10 and 11**

Dear Student:

ESSEX cares about you. We want to assist you in maintaining your health and wellness as you pursue your academic goals.

Asking for help is NOT a sign of weakness. It is a brave and critical step to getting the assistance that you deserve.

Whenever you need someone to talk to when you feel **overwhelmed, stressed out** or **feel like you have run out of options**, reach out to a **counselor**:

On the **Main Campus** between 9:00 am and 6:00 pm, Monday -Wednesday; 9:00 am-5:00 pm on Thursday; 9:00 am-3:00 pm on Friday

Professor Kathlyn Battle	973-877-3284/Battle@essex.edu
Professor Jim Johnson	973-877-3371/Johnsonj@essex.edu
Professor Victor Stolberg	973-877-3129/Stolberg@essex.edu

At any other times, connect **24 hours a day** with:

Campus Security	973-877-3312
National Suicide Prevention Lifeline:	1-800-273-TALK (8255)
Emergency	911
Crisis Text line	Text **"GO"** to **741741**

Don't give up! It is ok not to be ok.

The Counselors

Student Development and Counseling Office Room 4122.