OSTIM TECHNICAL UNIVERSITY
COMPUTER ENGINEERING

CENG400 Graduation Project

ELEC 2 Cyber Security							
Course Name	**Course Code**	**Term**	**Hour**	**Practice**	**Lab**	**Credit**	**ECTS**
Graduation Project	CENG400	1	10	0	0	5	8

Language of the Course	English
Type of Course	Compulsory
Course Level	Undergraduate
Method of Teaching	Supervision, one-to-one discussion, work revision
Instructor	
Course Learning and Teaching Techniques	-

Purpose of the Course

The graduation project challenges students to go beyond the learning that occurs as the result of their prescribed educational program by developing projects that demonstrate their intellectual, technical and creative abilities. Students shall complete their projects in areas of concentrated study under the direction and supervision of faculty members. The projects will demonstrate the students' ability to apply, analyze, synthesize, evaluate information, and communicate significant knowledge and comprehension. Personal growth and satisfaction are associated with the graduation projects. Students will derive sense of accomplishment through the completion and "ownership" of bodies of works that are reflections of their interests and abilities. Opportunities to expand their personal knowledge and explore careers and apply learning to real life situations will serve to benefit the students' growth and promote lifelong learning.

Learning Outcomes

Students who successfully complete this course;
- Understand and apply essential facts, concepts, principles, theories, and practices relating to computer science, information systems, and software applications in the context of well defined scenarios, showing judgment in the selection and application of tools and techniques, whereby, both the process and the product are integral parts of this activity.
- Identify and analyze criteria and specifications appropriate to specific problems, plan strategies for their solution, use such knowledge and understanding in the modeling and design of computer based systems, develop and implement a software system along with appropriate documentation.
- Analyze the extent to which a computer based system meets the criteria defined for its current use and future development.
- Apply the principles of effective information management, information organization, information retrieval skills, and the human computer interaction to the evaluation and construction of user interfaces web pages.
- Understand and explain the quantitative dimensions of a problem, and exercise presentation skills to a range of audiences about technical problems and their solutions.

- Be able to work effectively as a member of a development team and under guidance.
- Manage one's own learning and development, including time management and organizational skills.
- Appreciate the need for continuing professional development.

Course Content
This course covers the contemporary cybersecurity threat landscape facing systems. Students learn what they can do for security controls and countermeasures, and which method involves the decision-making process and what risks. It specifically focuses on risk management and security with all aspects of a system, including policies, procedures, training, strategic alliances, technologies and methodologies. Topics also include qualitative and quantitative risk analysis, audits, measurements, vulnerability assessment, and legal and regulatory processes.

Weekly Plan and Related Preparation Studies		
Week	Topics	Subjects
1	Phase I: Initiating	• Problem definition(Problem Statement)
2		• Current / Existing systems
3		• Proposed scope and enhancement
4		• Scope
		• Development of Project Objectives
5	Phase II: Planning And Requirements	Structured approach : • Scope Initiation
6		
7		• Activities definition ,sequencing and duration estimating (Use Gantt Chart, Network Diagram)
8		• Resource Planning
		• Cost estimating and Budgeting.
		• Information Gathering / Literature Survey
		• Describing functional and nonfunctional requirements of the project
		• System Development Requirements (Environment and/or Tools, Utilities, Software, Hardware, etc...)
		• Scheduling and Resources Distribution (Optional)
9		Object Oriented approach : • Scope Initiation • Activities definition ,sequencing and duration estimating (Use Gantt Chart, Network Diagram) • Resource Planning • Cost estimating and Budgeting. • Information Gathering / Literature Survey • Scheduling and Resources Distribution (Optional) • Requirements Management Plan. • Glossary. • Business Use Case (Optional). • Object Diagram (Optional). • Use Case Specifications. • Supplementary Specifications
10	Phase III: Analysis And Design	Structured approach : • Logical Data Flow (Context, Level 0,And Child) Diagram
11		• Physical Data Flow Diagram (Optional)
12		• Data Dictionary (Data Flow Description Form, Process Description Form, Element Description Form, Data Store Description Form, Data Structure).
13		
14		• Database Design (ERD). • Output Design and Input Design

		Object Oriented approach : • Use Case Diagram. • Activity Diagram. • Package Diagram. • Class Diagram. • Sequence Diagram • Collaboration Diagram. • State Diagram. • Deployment Diagram. • Output Layout.
15	Progress	The Assessment Committee will evaluate students' perception and proposed
16	Report	model

Resources (Textbook and supplementary book)

Text Books, published research papers and design manuals relevant to the assigned project topic.

Evaluation System

Upon successful completion of the course the student will be evaluated according to his/her evaluation by his/her supervisor.

Course Learning Outcomes and Program Qualifications

No	Program Qualifications / Outcomes	Contribution Level				
		1	2	3	4	5
1	Students recognize their role's with developing team carrying different aspects of analyzing computer systems, in terms of choosing the systems and the interaction of decisions made by various project teams.				x	
2	Students recognize the ethical and professional responsibility in achieving accurate analysis for safe and economical design, and its impact on the wellbeing of the society.				x	
3	Students recognize the importance of reading and understanding technical contents in English in order to achieve life–long learning and be able to carryout their responsibilities.				x	
4	Students are encouraged to submit accurate analysis in an efficient and professional way.					X
5	Students are encouraged to improve their writing, communication and presentation skills					X

ECTS/Workload Table

Activities	Count	Duration (Hours)	Total Workload
Lesson hours (Including the exam week: 16 x total lesson hours)			
Lab			
Application			
Course Specific Internship			
Field Study			
Out of Class Study Time	16	10	160
Presentation/Seminar Preparation	2	10	20
Projects			

Reports			
Homeworks			
Quizzes/Studio Critic			
Preparation Time for Midterm Exams/Midterm Jury			
Preparation Time for the General Exam/General Jury			
Total Workload			**180**